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# Statistically Based Decompression Tables VII: Selection and Treatment of Primary Air and $N_2O_2$ Data

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Probabilistic models of decompression sickness (DCS) require high quality data of diving profiles and DCS occurrence to get reliable predictions of the probability of DCS, P(DCS). Over 400 experimental dives performed since 1977 in the U.S., U.K., and Canada were collected, verified, and formatted for use in probabilistic models. In most cases the dive profile precision is within 1 fsw in depth, 30 sec in time, and 0.1 ATA in $PO_2$. DCS outcome and other medical records are of the high quality expected for test dives done in military laboratories. This report describes the data sources, steps used in the review and formatting process, and summaries of the data collection.

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# STATISTICALLY BASED DECOMPRESSION TABLES

# VII: SELECTION AND TREATMENT OF PRIMARY AIR AND $N_2$-$O_2$ DATA

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## SUMMARY PAGE

### THE PROBLEM

Probabilistic models of decompression sickness need to be calibrated with known dives. For most believable models, high quality dive data is required.

### THE FINDINGS

Over 4000 experimental dives performed since 1977 in military labs in the U.S., U.K., and Canada were obtained, carefully verified, and put into a standardized format. Precision in most cases is within 1 fsw depth/0.5 min in time, 0.1 ATA in oxygen, and supported by original clinical notes on outcome.

### APPLICATION

These data are the basis of the Navy air and $N_2O_2$ algorithm development scheduled to provide new decompression tables in FY93.

## ADMINISTRATIVE INFORMATION

This work was supported by the Naval Medical Research and Development Command Work Units 63713 M0099.01A-1002, "Scientifically based decompression tables for air and mixed gas diving," and 63713 M0099.01A-5012, "Medical Problems of Pressurized Submarine Rescue."

Data in ASCII format are available upon request from the authors. Programs used to manipulate data are maintained at the Naval Medical Research Institute.

# STATISTICALLY BASED DECOMPRESSION TABLES VII: SELECTION AND TREATMENT OF PRIMARY AIR AND $N_2$-$O_2$ DATA

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R. Y. Nishi, and E. D. Thalmann

## ABSTRACT

Probabilistic models of decompression sickness (DCS) require high quality data of diving profiles and DCS occurrence to get reliable predictions of the probability of DCS, P(DCS). Over 4000 experimental dives performed since 1977 in the U.S., U.K., and Canada were collected, verified, and formatted for use in probabilistic models. In most cases the dive profile precision is within 1 fsw in depth, 30 sec in time, and 0.1 ATA in $PO_2$. DCS outcome and other medical records are of the high quality expected for test dives done in military laboratories. This report describes the data sources, steps used in the review and formatting process, and summaries of the data collection.

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# I. INTRODUCTION

*Data Need*

Using maximum likelihood as a measure (23), it is now possible to assign an objective score to how well a probabilistic model can fit a set of decompression data. A key is the collection of highly reliable data. This report summarizes the collection and review of over 4000 man dives to be used as primary data.

Some appreciation of what is meant by primary data can be obtained by examples of what it is not. Operational diving logs are not useful (30). These typically contain entries of the maximum depth achieved, the time spent before decompression, and the decompression schedule used. Figure 1 contrasts the literal interpretation of such an exposure (dotted line) with a more typical profile of what actually occurred. The discrepancy is too severe for useful modeling, since the estimated DCS risk may be different by a factor of 2 or worse.

Written reports of controlled dive trials are also not, in themselves, a source of primary data. Figure 2 contrasts the planned profile from the report of an experimental dive with a reconstruction of it based on an automatic depth-time recorder (20). It shows that the various practical problems in conducting a diving trial make exceptions to the planned profile a common occurrence.

In Reports I and IV of this series (24, 9), 1992 human dives were used as data. They represented the best collections available at the time. However, we retained some questions about the reliability of the data. We entered over half of the profiles as if they were all done as planned with none of the problems exemplified by Figure 2. Also, most of the dives occurred during the interval of 1950-1970. From the published reports of those dives as well as from many conversations with the participants, the standards for diagnosis of DCS differed from today's. With several of the older cases, we found it necessary to change the diagnosis retrospectively based on reported case descriptions. Since the case descriptions are frequently short or missing altogether, it would be preferable to use newer data with better records.

An additional advantage is afforded by increased precision of the newer depth and time data. For hyperbaric chambers equipped with automatic recorders, complete records are frequently available. Formerly one was forced to assume "standard" rates of ascent and descent, and newer records indicate that deviations from planned rates is the rule, not the exception. For some models, the difference between 1.5 and 2.8 minutes to travel between two depths is an important part of the overall risk. For most of the new data we had access to original records with time resolution better than 30 sec.

A final advantage is provided by the timeliness of the data. Discrepancies between planned, reported, and automatically recorded profiles can be reconciled with

the author of a given study. Indeed that reconciliation consumed a major part of the effort in this report.

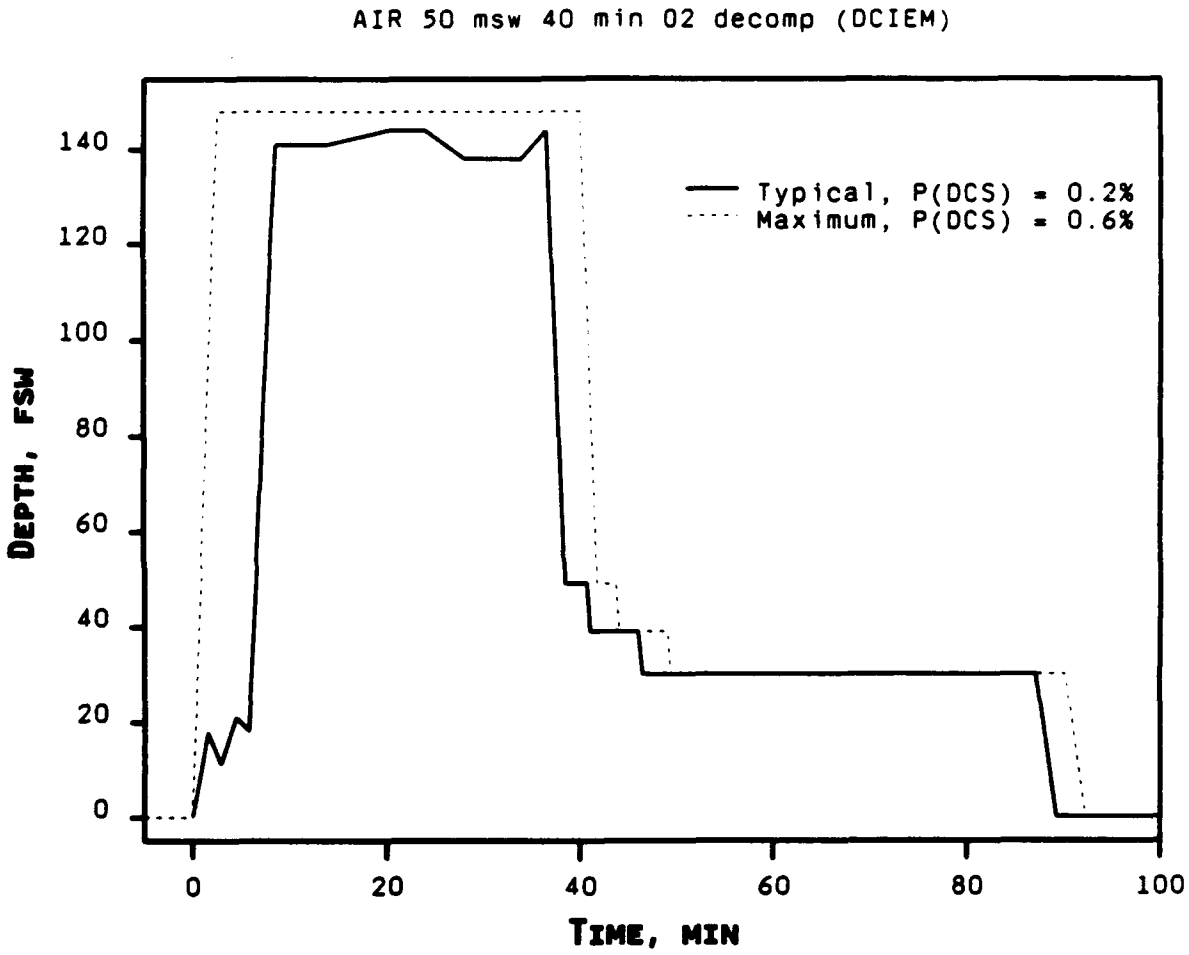


**Figure 1. Comparison of a typical diving profile (solid line) with a literal interpretation of the dive based on the depth and time entry chosen for a decompression schedule.**

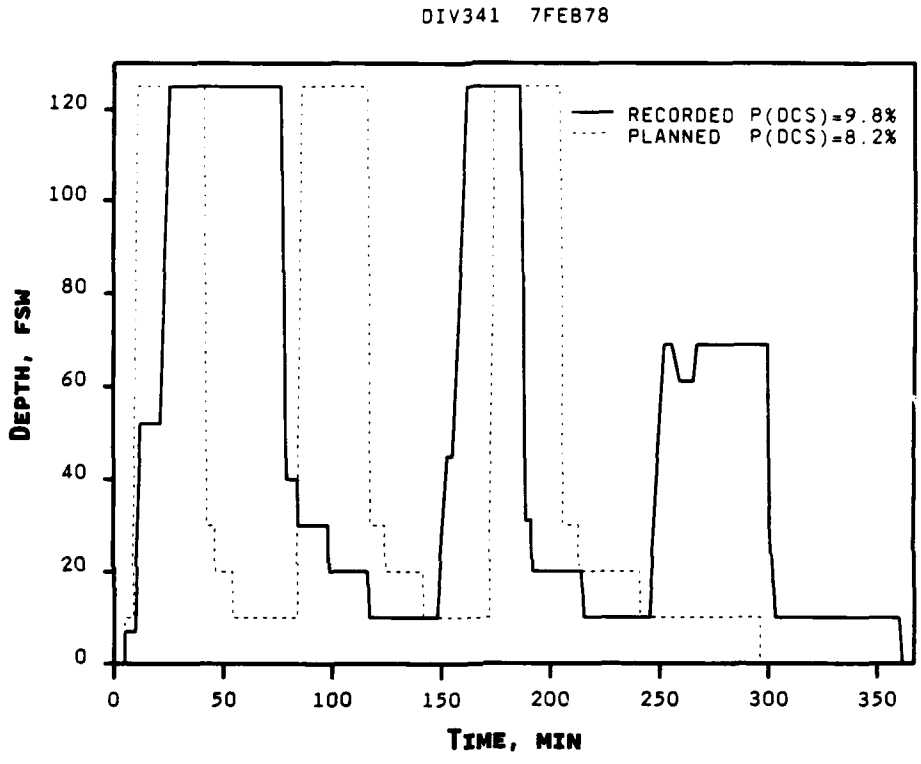


Figure 2. Comparison of an experimental dive profile between the data of the automatic depth recorder and the tabulated entry in the report for the planned profile. Repeated delays in descent because of divers' ear problems produced over an hour delay.



Table 1
Summary of Available Data

*General procedure*

We sought to obtain the dives performed at U.S. Navy, Royal Navy, and Canadian Forces laboratories from 1977-1990. Canadian dives were all available as records in the CANDID databank (10). Only some of the other studies had dive profiles in computer files, and extensive reconstruction from reports, original logs, and medical notes was required. All profiles were reviewed by 1 and usually by several of the authors, and all were plotted to reveal errors or further questions. The desired precision of pressure-time profiles was 1 fsw and 30 sec; the actual precision is reported for each study. To minimize total data size consistent with that goal, we adopted a convention of recording depth-time nodes that assumed a linear interpolation between nodes would approximate the actual dive to the desired precision. When computer records of the profiles were available, we used specific programs to assist in collapsing the original profile into a minimum number of nodes. Figure 3 is an example for one dive. Some special purpose programs were written to aid data checking and review; for example, to catch time points incorrectly ordered, or an incorrect time of DCS occurrence (see below). All data were analyzed by earlier models (9) to spot a questionable P(DCS). Inconsistencies among plots, logs, and reports were resolved by contact with the original experimental team. Every data set required this reconciliation.

Certain conventions were assumed: depth was chosen as corresponding to mid-chest on the diver, regardless of his orientation in the water. Depth gauge calibration assumed the U.S. Navy sea water density standard of 1.025 g/cc. A final time entry was made for all dives to cover a post-dive interval sufficient to capture symptoms of DCS: 24 hours for most dives, but 48 hours for saturation dives, and 12 hours for submarine escape exposures.

An aspect of decompression data not previously used is the specific time at which symptoms of DCS occur. For reasons which are presented elsewhere (28), knowing this time increases the usefulness of the data considerably. For the data of this report, time-of-bends is included. The time at which the symptoms were first noted by the diver are usually available from original reports or physician notes. Considerable uncertainty is attached to that time since most symptoms developed slowly. We call that reported time $T_2$ and consider it as the end of a period whose beginning, called $T_1$, is the prior time when there was definitely no symptom reported. In some cases, the report included a time when the diver felt himself to be symptom free, but these cases are few and of variable quality. Because $T_1$ cannot be unambiguously set at any figure, we applied the following rules:

| Time symptoms reported ($T_2$) | Time definitely symptom free ($T_1$) |
|---|---|
| surfacing + 3 hr or more | surface + 2 hr |
| surfacing + 1 to 3 hr | surface + 30 min |
| surfacing + 20 min to 1 hr | surfacing + 10 min |
| surfacing + less than 20 min | time leaving previous stop depth |
| before surfacing | time leaving second previous stop depth |

The length of the $T_2$-$T_1$ interval can vary from a few minutes to many hours, even in the experimental settings where medical surveillance is more intense than in other diving settings. The interval generally lengthens as the definite $T_2$ time gets later. The

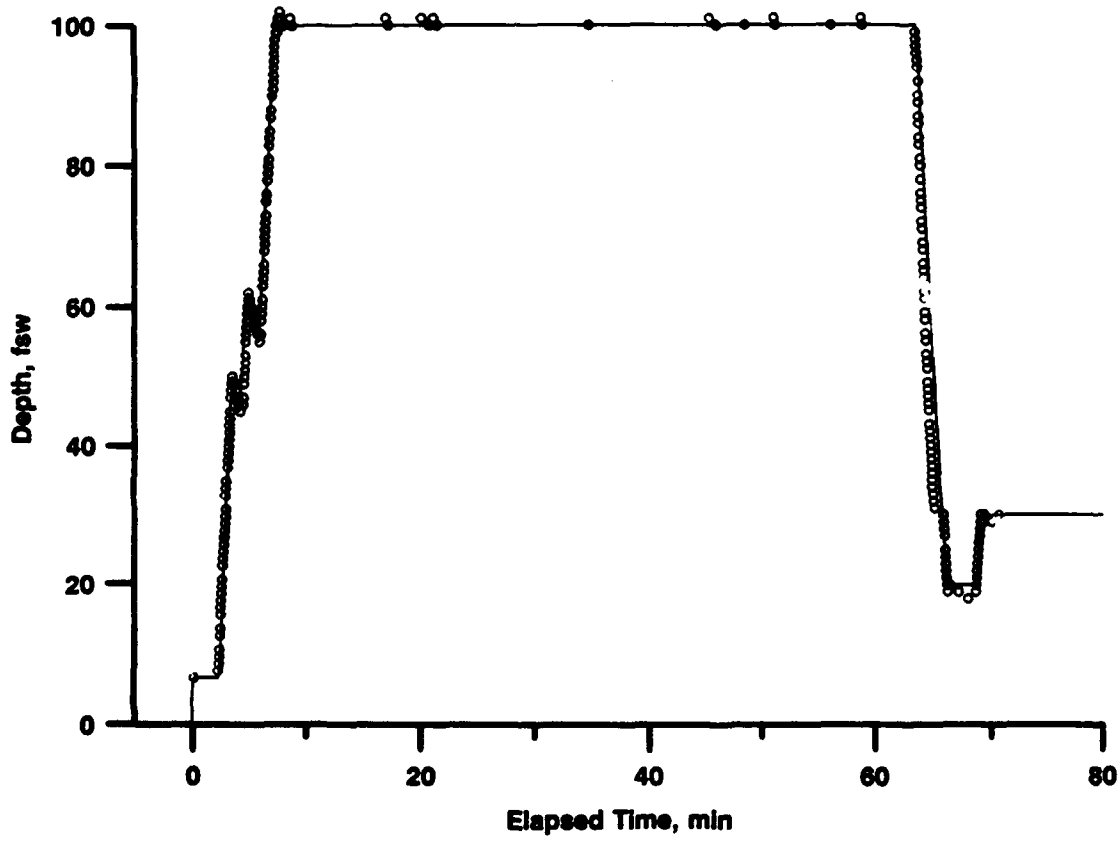


Figure 3. Comparison of raw depth-time record (points) with the simplified node structure in the final data record (line segments).

latest $T_1$ used, 2 hours after the dive, corresponds to a final medical examination for the diver before being sent home in most decompression studies. A number of exceptions to these $T_1$ rules can be found in the data. Each exception has a story, such as a diver noting a minor ache that disappeared but then recurred later in the same site and was successfully treated. In those cases $T_1$ is adjusted to include the earlier minor symptom.

Individual outcomes are tabulated as safe (i.e., no DCS symptoms), DCS, or marginal. In general, only symptoms successfully treated with recompression are counted as DCS. Marginal symptoms are assigned to cases where the diver reported a mild, short duration ache or pain that was not treated with recompression therapy but was thought to be definitely associated with the dive. Reports of unexplained excessive fatigue and skin rashes in wet divers are also entered as marginal outcomes. No separation is made between those symptoms involving the central nervous system and those with only local pain. The number of cases with unambiguous nervous system involvement was not great enough to allow separate modeling on only those cases, and the categorization of cases itself is quite problematic (8).

This report describes the data used, the procedures for conversion from its original form to the common format, and the compromises made in that process. Appended are short summaries of data files, a description of the format used in the data and a single line summary of each individual profile. Full data sets are available from the authors.

## II. SINGLE AIR DIVES

Data set EDU885A comes from an unusually intensive 1984 study at the U.S. Navy Experimental Diving Unit (22). In addition to these single air dives, other types of dives were performed and are included in other categories below. In addition to the 474 single air dives listed in that report, 9 others are included from the repetitive air dive category where the diver did not perform the repeat dive. The latter 9 include 5 where DCS was diagnosed before the second planned dive. The dives were deliberately stressful, with moderate exercise (stopped before decompression) and cold water immersion throughout. From 7 to 10 (average 9.1) divers simultaneously followed the same depth profile. The dives included some exposures considerably longer (average 78 min bottom time) and deeper (average 112 fsw) than typical air dives. Of special interest are rather long no-decompression dives, such as 190 fsw for 14-16 min, and several prolonged decompressions following 3 hours at 60 fsw.

Dive pressure-time profiles were automatically recorded during the experiment in 1 fsw depth and 2 sec time increments. Tapes of those data were used to plot profiles and approximate them as a series of up to 21 depth-time nodes. The approximation followed the raw data to a maximum deviation of 1.2 fsw and 0.2 min. The greatest number of nodes were required for several instances of delayed descent to clear divers' ears, and for a profile change to begin treatment on a diver suffering DCS before the end of the dive. Many profiles showed actual exposures from 3 to 7 min longer than the planned times in Appendices E and H of the report (22). Each dive included 2 additional nodes to cover the 0.2 min time for divers to swim to and from the water surface to the exercise stations at a depth of 7 fsw in the chamber wet pot. Assignment of the number of divers to each profile, and assignment of DCS outcomes and times were guided by Tables 4-6 and Appendix B of the report (22). Discrepancies were reconciled using original experimental notes and logs.

Data DC4D and DC4W are from the Defence and Civil Institute of Environmental Medicine (DCIEM) in Canada. Dives were done over the period of 1978 to 1986 (11-16). DC4D has 797 dry man dives on 254 separate profiles, while DC4W has 244 wet man dives on 143 profiles. Dives span a great range of conditions, but average a bit deeper (149 fsw dry and 154 fsw wet) and shorter (18 min dry, 24 min wet) than those in EDU885A. The average decompression time on these dives is about 20 min; much less than the average 78 min in EDU885A. About 60% of the wet exposures involved moderate work for the diver: 75-100 watts (14,15) or 50-75% of maximum heart rate (11-13). Work was generally stopped before beginning decompression. Water was usually cold for these exposures. Dry divers were completely at rest in 80% of the exposures and did only light work such as arm exercises or tending hoses in the other cases. Of the total of 35 cases of symptoms reported after these dives, 8 were entered as marginal: these included mild or fleeting pains, unusual fatigue, or other problems associated with the dive but not persistent enough to require recompression treatment.

Also included in this category are post-dive skin rashes in wet divers; rashes in dry divers are considered to be a local skin mechanism that would not follow the same mechanism as other DCS symptoms.

Data was extracted from the CANDID data bank (10). All air dives from the period in question were considered. Some were then excluded because the exposure was very brief, e.g. for orientation; or the exposure was very complex and the time consumed by repeated minor compression and decompression was a major part of the dive; or the exposure was neither simply wet nor dry. The latter category included equipment testing when subjects alternatively used equipment in the water, and cases where "standby" divers in some tests (11-13) were partly immersed throughout. As with EDU885A, each profile was plotted and approximated with up to 27 pressure-time nodes. Maximum deviation was 1 fsw or 0.2 msw when depth was approximately constant. When linear decompression was used (14-17), additional nodes were added when the rate deviation was outside 10-15%. Time precision was 0.1 min. Depth gauge calibration followed 1 ATA = 33 fsw, which is so close to the U.S. standard that an adjustment is unnecessary. In dives where depth was recorded in meters of sea water, msw, a linear conversion of 1 fsw = 0.3048 msw was used. In profiles with wet divers, additional data entry steps were required. For those in the chamber with a suspended wet pot, initial entry into the wet pot was set at 6 min before the time of chamber compression, and 3 min after the end of chamber decompression, unless noted otherwise in the CANDID record. During the full dive, subjects' position in the water was such that the depth to the diver's chest was assumed to be 3 fsw more than the chamber depth gauge. No such adjustments were used with the horizontal wet facility.

Data set SUBX87 comes from at-sea submarine escape exercises carried out by the U.K. Royal Navy in July 1987 (19,32). These are very deep (up to 600 fsw) but very short (under 2 minutes) air-breathing dives. The men were first hydrostatically compressed with a pressure doubling time around 10 sec (an exponential compression profile), then opened the submarine escape hatch, and finally ascended to the surface with additional bouyancy at a terminal velocity averaging 520 feet per minute. Some medical problems, such as burst eardrums, are common, but DCS is rather rare. The two cases of DCS included here had rather short onset times (under 10 min) and might be considered by some to represent cerebral air embolism rather than DCS. We entered them as DCS to be consistent with the original diagnosis. Inclusion of these dives with more typical air dives might introduce a bias that could confound hypothesis testing. However, exclusion of them would carry an additional danger. The other air dives do not have DCS cases when the total pressure exposure time is less than 10 min. Therefore, models that have a characteristic of declaring short exposures as perfectly safe could not be rejected. We feel that possibility is troublesome enough to require inclusion of these dives.

A total of 116 escapes were made from the submarine HMS OTUS off Norway in water depths up to 602 fsw, but averaging 340 fsw. Sixty-three escapes were made with

the subject carrying an automatic depth-time recorder. We received 58 of the raw records in a format suitable for plotting and approximation with up to 30 nodes. The recorders had a minimum resolution of 0.65 sec in time and 0.75 msw in depth. The records had a substantial amount of noise and included a time interval clearly longer than the exposure itself. In our approximation we ignored the early interval, and started the profile 0.02 min before the record of depth increased monotonically. Depth used the linear conversion: 1 fsw = 0.3048 msw with an offset of 2 fsw to adjust recorder depth (carried at knee level) to chest depth (men assumed in vertical head-up position). The different density standard used in the U.K. (1.020 vs 1.025) was not taken into account. Depth-time nodes were entered every <0.15 min unless the plot indicated a nonlinearity requiring additional nodes (over 10% change in slope).

Data set NMRNSW, obtained from the Naval Medical Research Institute, contains 91 dives, all to a depth of 61.5 fsw without decompression stops, performed in 1988 and 1989. Of these, 48 men breathed air throughout for bottom times of 80 to 100 min. Another 38 men breathed a mix of 40% oxygen in $N_2$ for 4, 5, or 6 hours. A final group of 5 men had a total exposure of 6 hours, but it was broken into four 90-min dives with about 20 min on the surface between each dive. Five DCS cases and 5 marginal cases were recorded, mostly in the air breathing group. These profiles were computer recorded, and discrepancies readily resolved so data precision is better than average.

## III. REPETITIVE AIR DIVES

Data set EDU885AR comes from the same 1984 study as EDU885A (22). Of the 187 repetitive air dives listed in that report, 5 are included in set EDU885A since DCS was diagnosed before the second planned dive. As with the single dives, these dives were deliberately stressful, with moderate exercise (stopped before decompression) and cold water immersion throughout. During the surface interval, divers were warm and resting. The exposures included double no-decompression dives to 80, 100, 120, or 150 fsw with surface intervals of 1 to 3 hours. Other dives were triple 100 fsw no-decompression dives with an hour between, or two longer dives to 100 or 150 fsw with 90 min between dives. Again, only symptoms which clearly responded to recompression are counted as DCS. No record of marginal symptoms is available.

Dive pressure-time profiles were recorded during the experiment in 1 fsw depth and 2 sec time increments. Tapes were analyzed exactly as for the single air dives discussed before. A maximum of 32 depth-time nodes were needed. Assigning the number of divers to each profile and assigning DCS outcomes and times were guided by Tables 4-6 and Appendix B of the report (22). Discrepancies such as deciding how many divers made fewer than the planned number of repetitive dives were reconciled using original experimental notes and logs.

Data sets DC4DR and DC4WR represent the dry and wet repetitive air dives from DCIEM. Dives were done in Feb 1984 (11) and Oct 1986 (dry only). DC4DR has 142 dry man dives on 9 different double-dive combinations with only a single case of DCS. One case of skin-only symptoms in a dry subject was entered as a safe outcome. DC4WR contains 12 wet man dives on 3 double dive profiles with 3 cases of DCS. The wet profiles (also represented in the dry set) were rather stressful dives to 118-177 fsw for 20-40 min with surface intervals of 2-3 hours. The additional dry dives are less stressful, typically short no-decompression combinations separated by a 30-90 min surface interval. The wet divers performed moderate work: 65-70% of maximum heart rate for half of the bottom time, ceasing before decompression. Water temperature was 7-11°C, and divers wore dry suits. Non-immersed divers were completely at rest in 80% of the exposures and did only light work, such as tending hoses, in the other cases.

The repetitive dive profiles were extracted from the CANDID data bank (10). Each profile was plotted and entered as up to 11 pressure-time nodes. Profiles were relatively simple and no additional approximating was required. Other data conversion details were exactly as described with single air dives at the same facility.

## IV. SINGLE NON-AIR $N_2$-$O_2$ DIVES

Data set NMR8697 is a series of nearly 500 dives with immediate decompression after 30, 60, or 240 min exposure on low (.21 - .38 ATA) or high (1.01 - 1.48 ATA) $O_2$ (31). The dive series was used to test the hypothesis that only inert gas - and not oxygen - contributes to the risk of DCS. Records from the dives allowed profile entry to be precise to within 0.5 fsw and 10 sec. Switches between air and the nitrogen-oxygen mixture occurred at 30 fsw and are entered as requiring only 0.3 min, since the divers deliberately hyperventilated immediately after the switch. Extensive and repetitive medical examinations revealed a higher incidence of marginal symptoms (18 cases) than of overt DCS (11 cases). The assignment of $T_1$ is also different from other data in being assigned to the most recent medical examination with negative results. The exams occurred at 5, 60, and 120 min after finishing the dive.

Data set EDU885M comes from the 1984 study whose air dives were mentioned above (22). All 81 exposures used the Mk-15 underwater breathing apparatus, which maintains a 0.7 ATA partial pressure of $O_2$ regardless of depth. Variations of $PO_2$ between 0.6 and 0.8 ATA are known to occur but were ignored in the data. Gas switches were assumed to occur over a 1.0 min period. Reconstruction of the profiles was otherwise performed in the same way as EDU885A and EDU885AR.

Data set EDU885S is also from the same test series. These 94 man dives switched between use of the Mk-15 device and breathing air. Fifty-six of the exposures were straightforward "square" profiles to 60-150 fsw for 120-40 min and air only breathing only while at maximum depth and 0.7 ATA $O_2$ during decompression. No DCS cases were observed in those men. The other 38 exposures had a multilevel profile with 2-3 hours at 20 fsw on the Mk-15 separating several deeper but short excursions to 60-100 fsw breathing air. That group had 4 cases of DCS.

Another data set arises from early use of the Mk-15 device in single dives: EDU1180S (20). These dives were conducted in the winter of 1978, but used essentially the same procedures as in EDU885M. The dives tended to be slightly longer, with relatively less decompression time; this undoubtedly contributed to the 8% DCS rate. Series 1 of those dives were not documented as well as desired and did not use automatic depth-time recording, so only the 120 Series 2 dives are included. Computer-acquired records of the profiles were obtained and treated in a similar fashion to the EDU885M dives, although format differences required some reprogramming. In lieu of specific records, an assumption was made that the divers breathed from the Mk-15 device for 5 min before entering the water.

## V. REPETITIVE AND MULTILEVEL NON-AIR $N_2$-$O_2$ DIVES

Data set EDU1180R has 128 dives which were done on multiple-depth profiles using the Mk-15 concurrent with the EDU1180S dives (20). These had depths of 75 to 150 fsw for about 30 minutes separated by multiple shallow intervals at 10 to 30 fsw. Overall dive durations were 4 to 6 hours. Tapes of depth profiles were treated similarly as EDU1180S and EDU885M.

Dives in set EDU184 were performed with the Mk-15 (constant 0.7 ATA $O_2$ in $N_2$) in Aug 1980 and Feb 1982 (21). All but 44 of the 239 exposures were repetitive dives (up to 4 dives in the series). Subjects generally exercised both while at bottom depth and during the surface interval between dives. All but one profile was available as a computer file allowing the same approximation rules to be used as in the EDU885 dives. Symptom onset times were taken from Table 11 in the report (21) and used as $T_2$ in the data; $T_1$ was assigned by rule as before. The 2 DCS cases which occurred during the decompression and were treated by recompression before completion of the dive were entered with the final pressure corresponding to the last depth reached before treatment was initiated. A group of 5 divers who received recompression therapy without having DCS had their final time entry at surface pressure entered as the time of recompression rather than the standard 24 hours later.

## VI. AIR DIVES WITH OXYGEN DECOMPRESSION

Data sets DC8AOD and DC8AOW are dry and wet exposures from DCIEM over a 10-year period, partially reported as formal test series (11,13,17). Other divers on those tests who were partially immersed (standby divers) were excluded entirely from the data. The exposures are slightly deeper (wet average 134 fsw, dry average 172 fsw) and longer (wet average 42 min, dry average 34 min) than other DCIEM dives from that period. Data was obtained from the CANDID data bank, reviewed, formatted, and audited in the same manner as other DCIEM dives. Gas switches were assumed to occur over a 1.0 min period except for the immersed subjects on the first $O_2$ period since the supply lines were not purged. Effective oxygen concentration was assumed 98% for dry subjects, 99.5% for the wet divers. One dry diver with DCS was excluded because a poor fitting mask made his oxygen exposure questionable (11). Assigned $T_1$-$T_2$ times for the DCS cases were established as in the other DCIEM exposures. One dry exposure with marginal symptoms was entered in a truncated form as the diver received recompression therapy before completing the planned exposure. Also one wet DCS case from a planned repetitive dive trial (12) is included since the case was diagnosed and treated after the first dive.

## VII. SATURATION DIVES

Saturation dives are presumed to have exposed the divers long enough to come to a partial-pressure steady state (or "saturation") with regard to inspired inert gas, so a longer time at depth would not imply need for any longer decompression. The time required to attain that state has been stated variously in the range of 12 hours to 3 days. In an earlier compilation (9), we used 40 hours. In the present set of data, all dives were of 48 hour duration or longer, but in all cases we have entered the actual time-depth profile actually performed. Frequently the exposures occurred primarily at a single depth, but with multi-hour excursions to other depths. When the excursions were few, we have entered them as they occurred. In a few cases, we omitted multiple excursions that were undertaken early in the dive. In all cases the excursions are included if they were 10 fsw different in depth and happened within 48 hours of final decompression. Another difference from non-saturation dives is the lack of immersion for most, if not all, of the time. We have not attempted to differentiate between the divers with partially wet exposures and the other divers.

Data set ASATEDU contains dives from the Navy Experimental Diving Unit from 1979 to 1988. Most of the time was at 60 fsw, with a few saturated at 50 fsw. Excursions to 5-10 fsw deeper to perform underwater tests were numerous, but are not included. The breathing gas was air in most cases; in a few, $O_2$ was allowed to fall to and be maintained at 18%. The records of oxygen concentration allowed gas switch entries to track within about 0.3% $O_2$. Both staged and continuous decompressions were used. Many of the dives supported development of U.S. Navy Treatment Table 7.

Dive profiles were reconstructed from notes, logs, and computer records of the dives. Data precision is considered to be comparable to that of the shorter dives discussed previously. Onset times were available for all cases of DCS except for some marginal symptoms (including excessive fatigue). Assignment of $T_1$-$T_2$ intervals was different from the convention for shorter dives. When the symptoms occurred before return to the surface, $T_1$ was entered as 12 hours earlier, since divers talked with Medical Officers about any symptoms at least twice daily. When the symptoms occurred after divers left the site (at least 2 hour after finishing decompression), T1 was entered as surfacing + 2 hours. In one instance when non-symptomatic divers were given a recompression treatment shortly after the dive, their exposure is truncated at that time.

Data set ASATNSM contains dives at the Naval Submarine Medical Research Laboratory between 1977 and 1988. The very different types of dives led to multiple entries in Appendix B. Some were simple 2-day exposures at 25.5 or 29.5 fsw followed by rapid decompression, others were up to 7 days at 60 fsw with occasional excursions to 100 or 150 fsw, and still others used 132 fsw as the saturation depth (corresponding to the internal pressure design limit of the Deep Submergence Rescue Vehicle). Decompression experiments from 132 feet explored both slow decompression and rapid ascent to an intermediate depth. Numerous reports were prepared concerning these

dives (5,7,18), but a number of inconsistencies led to a complete review of all extant logs, protocols and notes, and the data differ in many respects from published results. The record quality is such that data precision appears poorer than other data files: uncertainties of 2-4 fsw during decompression persist. DCS symptom occurrence was entered as consistently as possible with ASATEDU. Cases where DCS was diagnosed and treated before the diver finished the planned dive were truncated at the final depth achieved before treatment started. The final data entry in those cases is the pre-treatment depth 48 hours after starting treatment.

Fifty air saturation dives at the Naval Medical Research Institute in 1986 and 1988 are data set ASATNMR. They were of 3 or 4 days duration to 20 or 24 fsw. The 20 fsw dives had several excursions to 23-24 fsw which are recorded in detail. Data precision on those dives is to within 0.5 fsw and 10 sec, except for the times of the deeper excursions which were performed several days before final decompression. The 20 fsw dives had a final decompression which lasted 10-13 min (2 fsw per min until within 4 fsw of the surface then slower), while the 24 fsw dives decompressed at 1 fsw per second. The only DCS case arose after a 24 fsw exposure, and the onset time followed a medical exam by only 45 min, allowing a clean choice of $T_1$ and $T_2$.

Data set ASATARE is composed of dives at the Admiralty Research Establishment, Alverstoke, performed from 1981 to 1986 (1-4). Over half of them had men exposed to pressures of 62 to 72 fsw for 48 hours breathing either 0.4 ATA $O_2$ or 0.38 ATA $O_2$ with 0.02 ATA $CO_2$. Decompression was then to a pressure of 33 fsw on air with an observation period of 24 hours before final decompression. The other dives were 48 hours at depths of 23 or 26 fsw with one of the same two gas mixtures, followed by rapid return to 1 atmosphere. Incomplete reporting, and the lack of some of operating details necessitated more assumptions than usual about these exposures. The $CO_2$ dives are entered as if $CO_2$ were $O_2$ (but noted in the header line of each profile) with the justification that $CO_2$ effects are likely to be small (29), and the knowledge that too few dives with that characteristic are available to permit serious quantitative study. Depth control was in bar. Assuming that control was as precise as is usual in experimental saturation dives, depth was entered to a precision of 0.1 fsw, after taking into account the different water density assumption used in the U.K. gauge calibration.

## VIII. SURFACE DECOMPRESSION

Files DC8ASUR, DC8ASURW, DCSUREP, and DCASUREPW come from DCIEM dives performed between 1982 and 1985 during the development of the DCIEM-1983 air tables. The first file, DC8ASUR, has all dives with a single use of the "Sur-D-$O_2$" procedure (divers leave the water knowing that decompression is incomplete, then quickly recompress and breathe oxygen), while the second, DC8ASURW, has a subset of only wet divers. Files DCSUREP and DCSUREPW are similarly paired sets of complete and wet-only dives using Sur-D-$O_2$ as part of a repetitive dive combination. Further breakdowns of the divers into separate data sets of dry and partially immersed tenders was not justified for this small number of dives. As with other DCIEM dives of that period, wet divers were generally exercising, while dry divers were generally at rest. Data was extracted from the CANDID data bank as before, and formatted by the previous rules. A number of discrepancies were found by comparing to published reports (12,13,17), mostly relating to times of starting and stopping oxygen breathing. For the overall files, "pure" $O_2$ was entered at 98% (balance $N_2$), and the wet diver files were changed to 99.5% during the in-water phase. Gas switches were performed by donning and removing masks connected to an oxygen supply, so switch times were entered as requiring 1.0 minute to complete. However, in the wet-diver-only files, the gas supply lines were not purged on initial use, so switch times of 1.3 min were used. The standard $T_1$-$T_2$ rules were used. If a symptom was reported during the surface interval even though the diver continued on the planned profile, his $T_1$ was entered as the time of leaving the last in-water stop before the surface, and $T_2$ was the time of leaving the surface for the 40 fsw oxygen breathing portion. One diver who was treated for DCS, but later described as not due to the experimental dive was excluded completely.

Data set SUREX is an unusual collection of dives having an excursion to the surface from a state of air saturation (6). In 8 saturation dives of 3 men each, either 2 or 3 such excursions were performed. The saturation depths were 45-75 fsw, and the duration of the excursion ranged from 10 to 30 min. Five cases of DCS were reported (one after the final saturation decompression, the others during or shortly after the excursion). A review of the medical logs led us to count another 3 cases as marginal symptoms, since they involved minor joint pain that resolved upon recompression. Dive profiles were reconstructed from original logs, not the published paper, and discrepancies of up to 2.5 min were found in which the 2 documents conflicted. Two peculiarities characterize these dives: only 24 or 48 hr were used to "saturate", and individuals were usually re-exposed to another excursion even if they suffered DCS on an earlier one. These weaken the claim of independent tests of excursion procedures. However, a second data file, SUREXM, was prepared that separately presents the hypothetical 64 man-excursions as individual profiles. The main file, SUREX, lists the actual 24 full man-dives.

Table 1
Summary of Available Data

| | Profiles | Man-dives | DCS | Marg | With $T_1$-$T_2$ |
|---|---|---|---|---|---|
| *Single Air* | | | | | |
| EDU885A | 82 | 483 | 30 | 0 | 30 |
| DC4W | 143 | 244 | 8 | 4 | 12 |
| DC4D | 254 | 797 | 19 | 4 | 20 |
| SUBX87 | 58 | 58 | 2 | 0 | 2 |
| NMRNSW | 45 | 91 | 5 | 5 | 8 |
| Total | | 1673 | 64 | 13 | 72 |
| *Repetitive Air* | | | | | |
| EDU885AR | 31 | 182 | 11 | 0 | 11 |
| DC4WR | 9 | 12 | 3 | 0 | 3 |
| DC4DR | 28 | 142 | 1 | 0 | 1 |
| Total | | 336 | 15 | 0 | 15 |
| *Single Non-Air* | | | | | |
| NMR8697 | 229 | 447 | 11 | 18 | 29 |
| EDU885M | 13 | 81 | 4 | 0 | 4 |
| EDU885S | 14 | 94 | 4 | 0 | 4 |
| EDU1180S | 22 | 120 | 10 | 0 | 10 |
| Total | | 772 | 29 | 18 | 47 |
| *Repetitive/Multilevel Non-Air* | | | | | |
| EDU1180R | 15 | 128 | 2 | 0 | 2 |
| EDU184 | 42 | 239 | 11 | 0 | 11 |
| Total | | 367 | 13 | 0 | 13 |
| *Air + $O_2$ Decompression* | | | | | |
| DC8AOW | 31 | 46 | 3 | 1 | 4 |
| DC8AOD | 67 | 256 | 3 | 2 | 4 |
| Total | | 302 | 6 | 3 | 8 |
| *Saturation* | | | | | |
| ASATEDU | 32 | 120 | 13 | 27 | 14 |
| ASATNSM | 45 | 132 | 18 | 21 | 25 |
| ASATNMR | 34 | 50 | 1 | 0 | 1 |
| ASATARE | 64 | 165 | 20 | 13 | 33 |
| Total | | 467 | 52 | 61 | 72 |
| *Surface Decompression* | | | | | |
| DC8ASUR | 72 | 358 | 10 | 1 | 11 |
| (DC8ASURW) | (63) | (98) | (5) | (0) | (5) |
| DCSUREP | 10 | 69 | 1 | 0 | 1 |
| (DCSUREPW) | (10) | (16) | (1) | (0) | (1) |
| SUREX | 16 | 24 | 5 | 3 | 8 |
| (SUREXM) | (28) | (64) | (4) | (3) | (7) |
| Total | | 451 | 16 | 4 | 17 |
| Grand Total | | 4368 | 195 | 99 | 244 |

## X. DISCUSSION

A short summary of the data is provided in Table 1. The first numerical column labelled "profiles" indicates the number of unique exposures (same depths, gas mixes, and outcomes) present. The other columns list total man-dives, number of DCS and marginal cases, and the number of cases for which the occurrence times of ($T_1$ and $T_2$) DCS or marginal symptoms were available.

The category of single air dives has the most data, with over 1600 individual exposures. The distribution of depths and times of these dives is far from uniform. Figure 4 is a data-density map of the bottom time (time spent at maximum pressure) for these dives. Short dives under 30 min duration are very well represented over the whole depth range. On the other hand, only a relatively few dives were longer than 2 hours before starting decompression. When total time under pressure (bottom time plus time spent in decompression) is mapped, Figure 5, longer times are seen to become more prominent, while the density of short dives remains similar to Figure 4, reflecting the empirical fact that required safe decompression time increases markedly with dive bottom times over 1/2 hour. There is little data for total diving times over 4-5 hours, and only a few for dives that were both deep (over 120 feet) and long (over 3 hours).

Another natural category of dives are those with simple profiles using the constant 0.7 ATA $O_2$ device. The depth time distributions are shown in Figure 6. Coverage is less extensive than for air dives, but a substantial fraction of the operational range (30 min at 150 fsw to 6 hr at 40 fsw) of those breathing devices is covered. However, it is not necessary to have as extensive data for each type of gas mixture of interest. Using the old but recently well tested (31) assumption of "air equivalent depth", we can combine different breathing mixture data into a single map. The non-air dives are converted by matching the same nitrogen partial mixture as would be found in compressed air at the equivalent depth. The single non-air dives were treated in this manner to combine with the single air dives to provide the depth time plot in Figure 7 for bottom time, and Figure 8 for total in-water time. The combined data set is seen to capture an extended range of depths and times. In fact, the amount of data for dives up to 3-4 hours duration makes the need for further experiments in that regime essentially unnecessary.

Saturation dives are not usefully categorized by bottom time or by total dive time. Instead, in Figure 9 we plot the decompression time against saturation depth. The plot reflects the efforts made to assess quick assents from 20-30 fsw, and the efforts to return more slowly from 60 fsw.

Another feature of the data is the distribution of onset times for DCS symptoms. Other compilations of onset times have been published, but they have typically started with records of chamber treatments. The data presented here have more the character of a prospective study since the dives were mostly experimental, had a specific

expectation of DCS occurring, and had constant medical monitoring. Figure 10 presents the distribution of definite symptom times ($T_2$) for all air dives, and Figure 11 for all dives (excluding saturation). The most striking feature is that very many cases occur quite late after the dives: 50% of the cases later than 2 hours, and 10% later than about

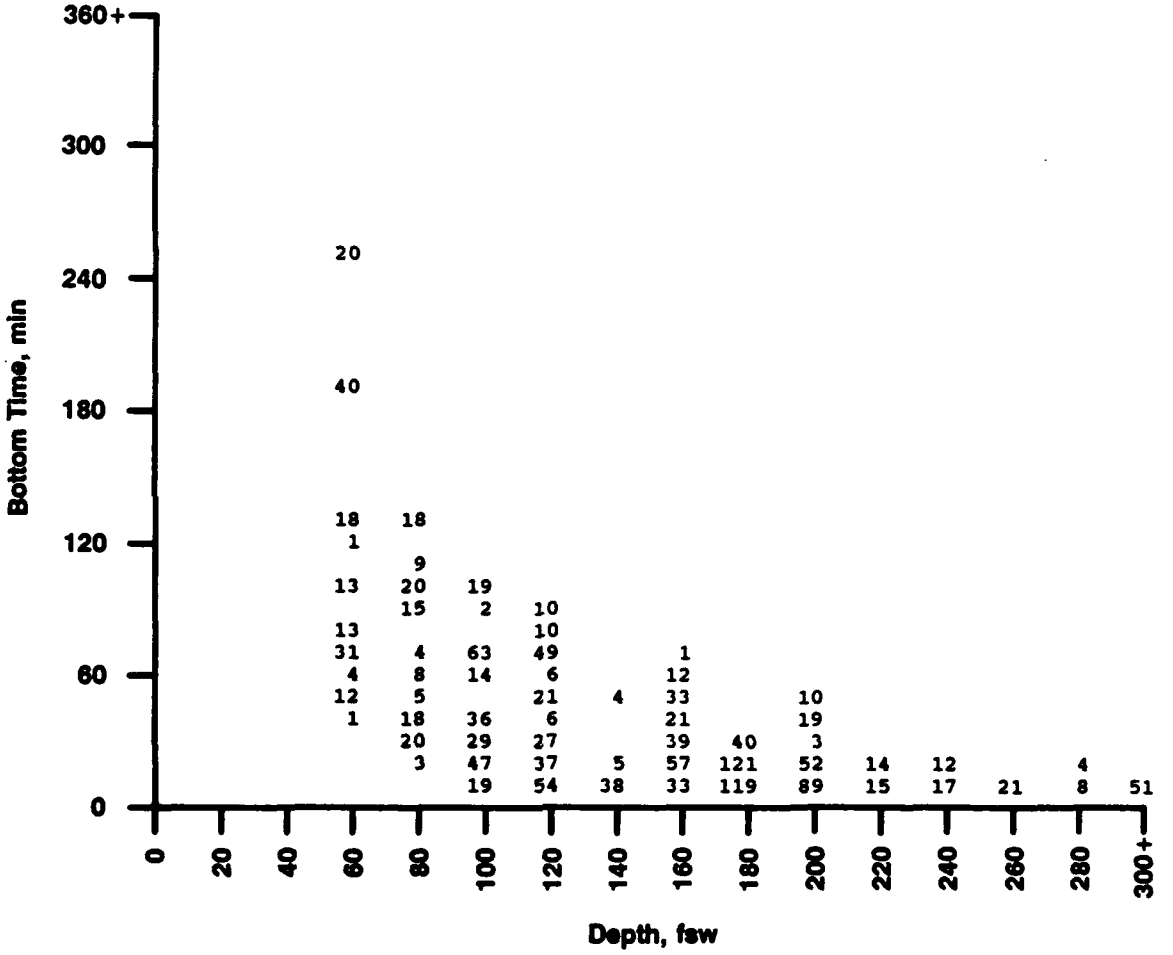


Figure 4. Distribution of depths and bottom times for single air dives. Numerical entries are the number of man-dives at that depth-time location.

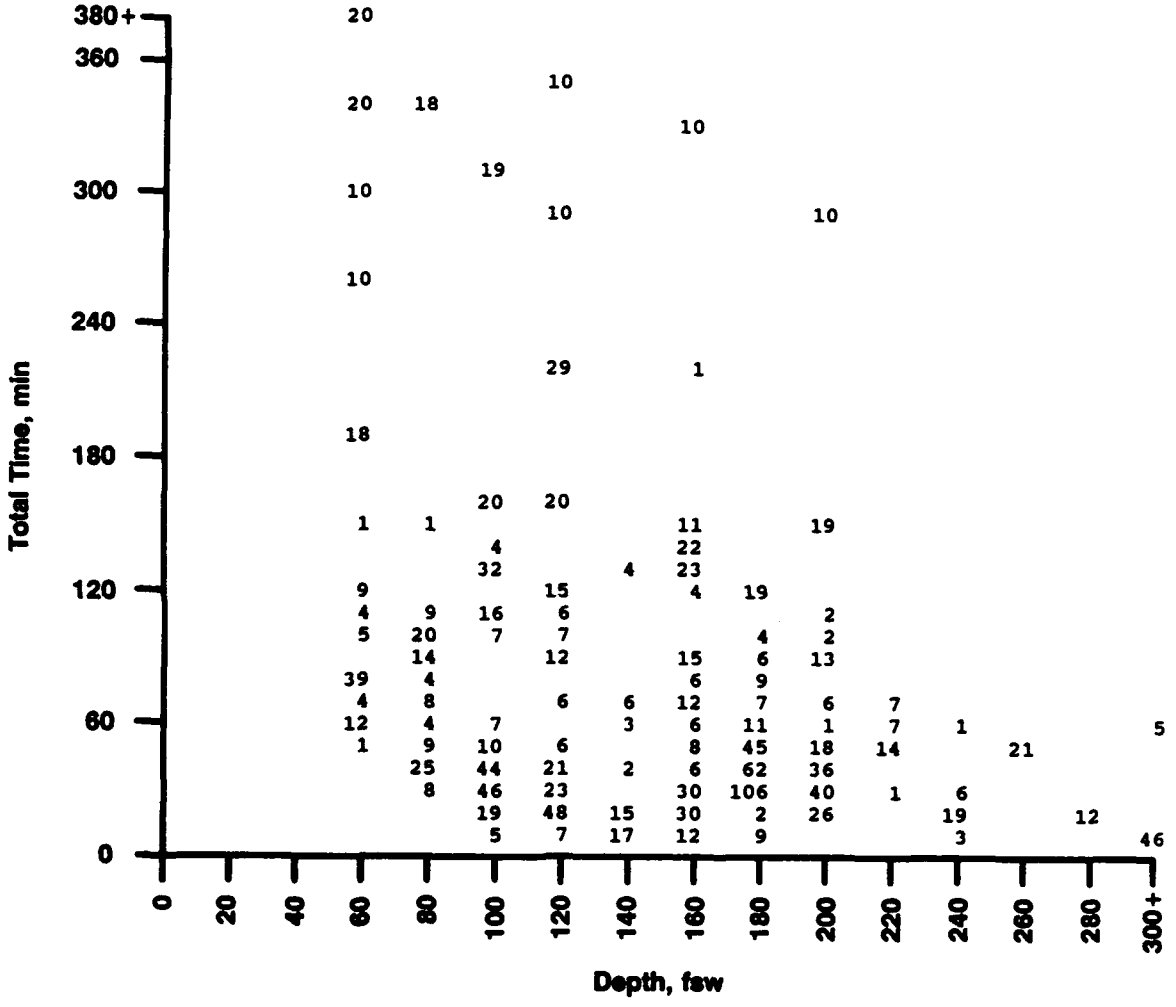


Figure 5. Distribution of depths and total dive times for single air dives.

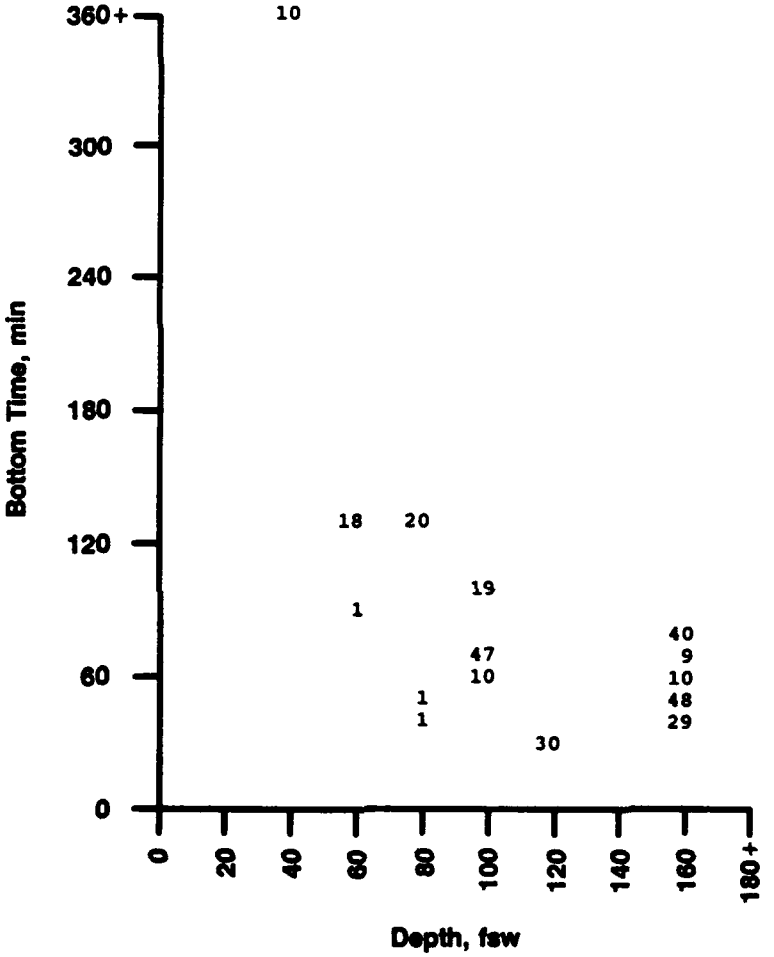


Figure 6. Distribution of depths and bottom times for single dives breathing constant 0.7 ATA $O_2$ in nitrogen.

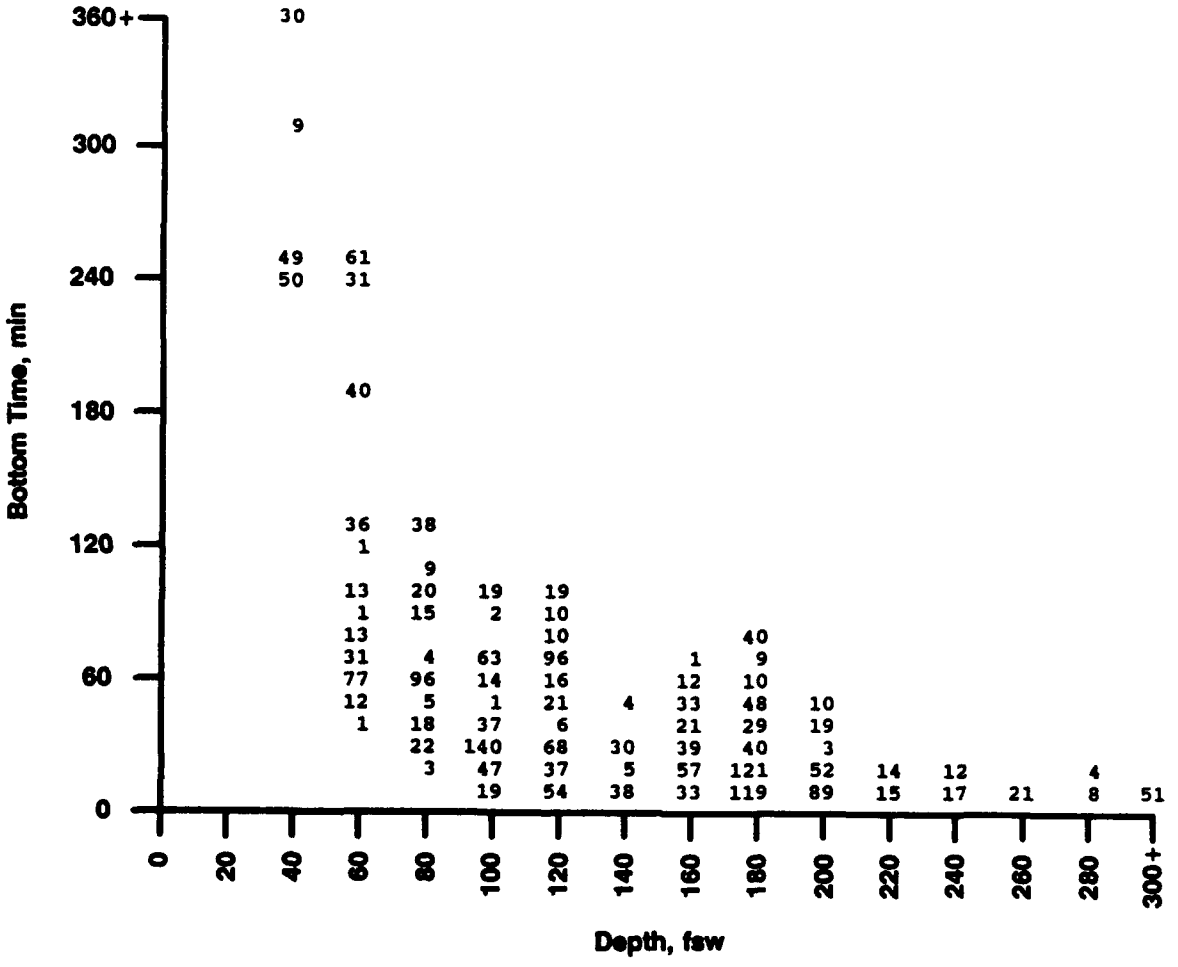


Figure 7. Distribution of air-equivalent depths and bottom times for all single non-saturation dives.

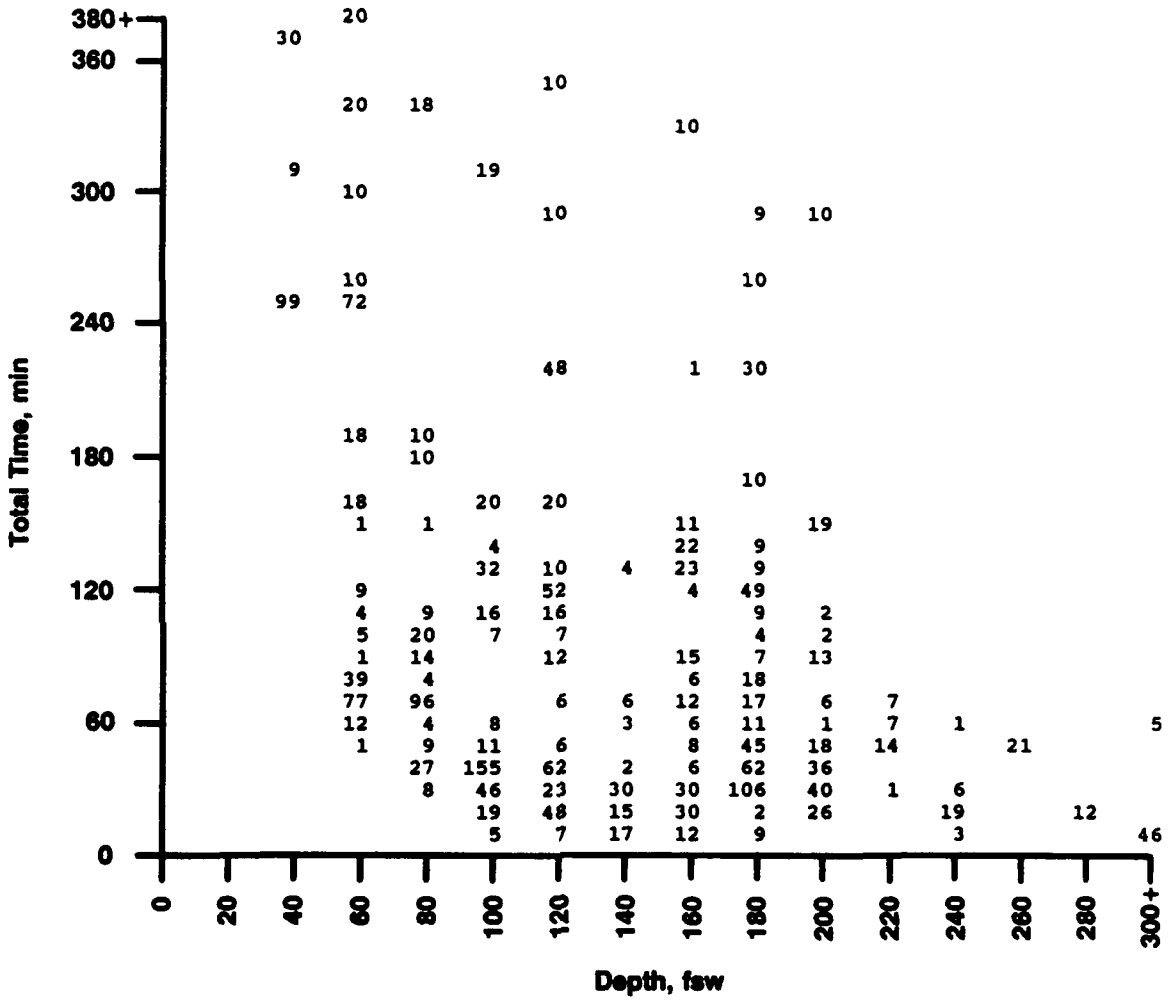


**Figure 8. Distribution of air-equivalent depths and total dive times for all single non-saturation dives.**

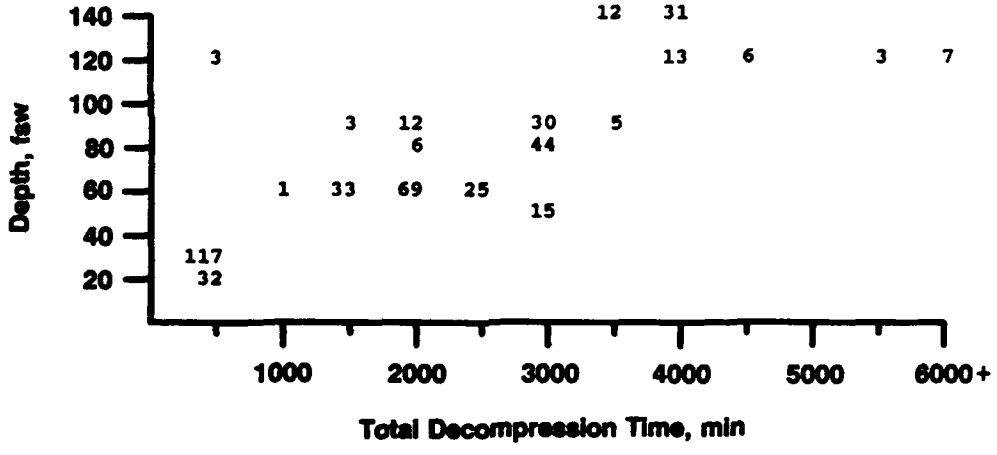


**Figure 9. Distribution of saturation depth and total decompression times for all saturation dives.**

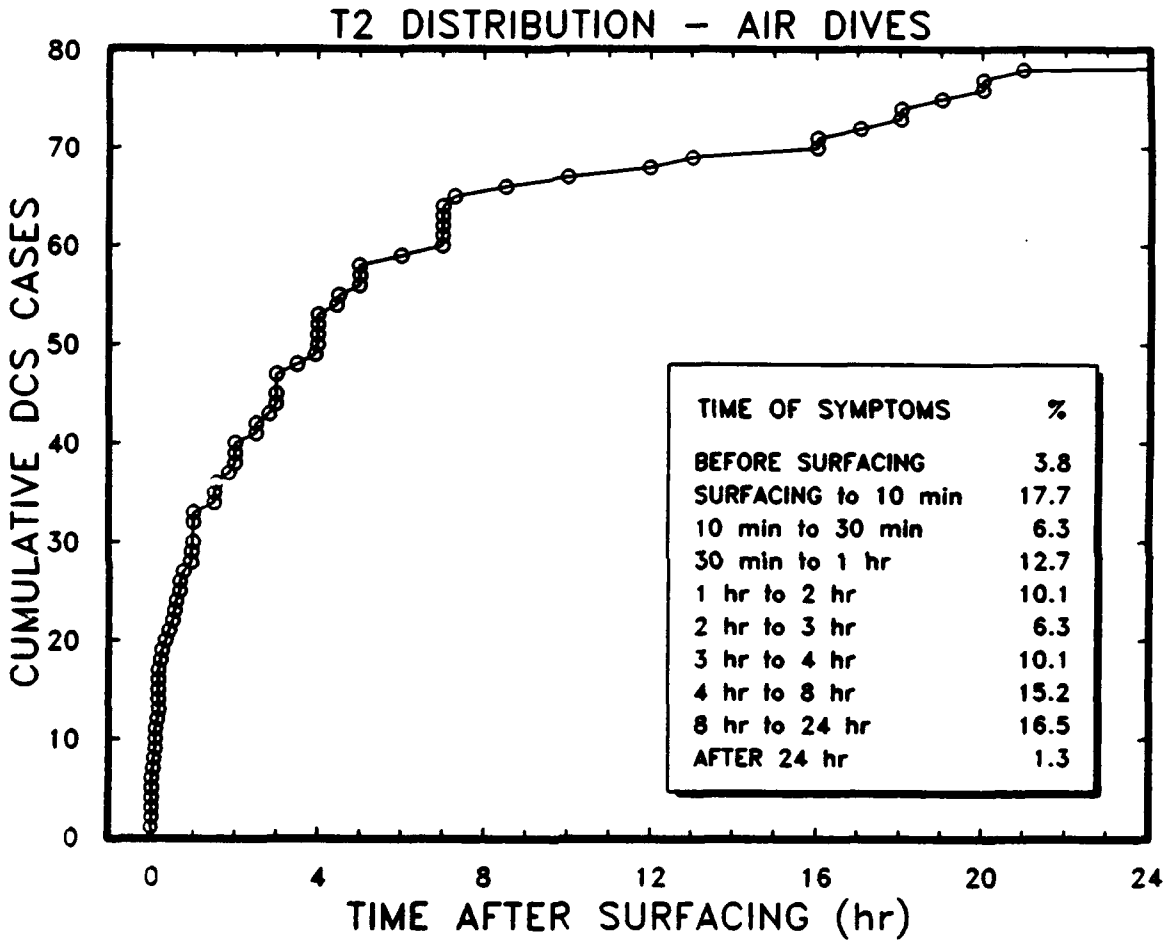


**Figure 10. Cumulative distribution of DCS definite onset times for air dives.**

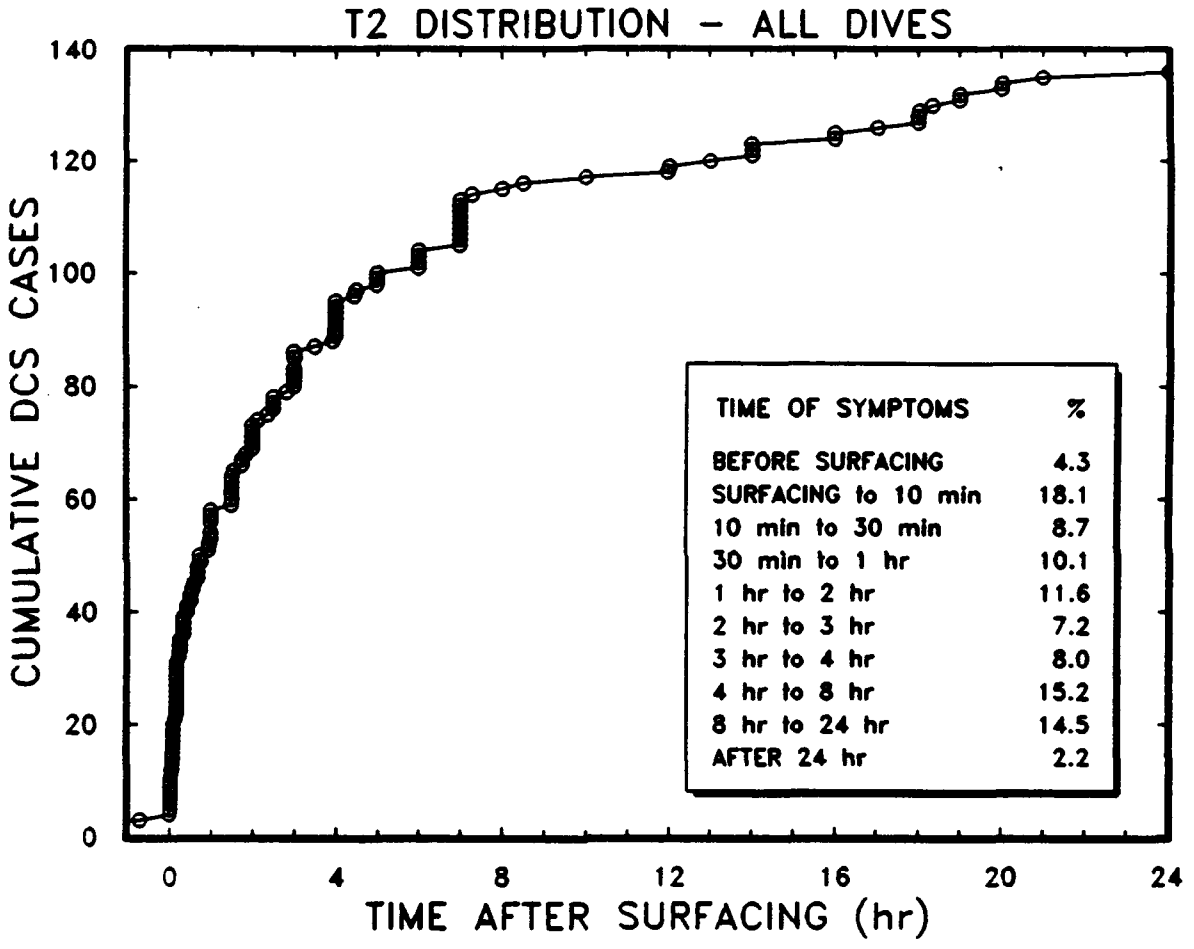


**Figure 11. Cumulative distribution of DCS definite onset times for all non-saturation dives.**

12 hours.

Onset times for marginal symptoms are not plotted. Many are missing entirely since specifying a time for "excessive fatigue" is essentially impossible. Likewise, many of the minor transient pains would recur intermittently and frequently involve more than a single site. Note that marginal symptoms in Table 1 definitely outnumber the outright DCS cases for the saturation dives. We can expect the marginal cases to have an important role in calibrating decompression models, especially in the parameters that are associated with slow kinetic events.

These data are recommended for use in maximum likelihood based parameter estimation of decompression models.

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# APPENDIX A

## DATA FILE FORMATS

Each profile is entered separately using standard ASCII characters. A profile is defined as a unique history of depth, gas breathed, and outcome including symptom times. If more than one subject has the same profile, the replication can be noted in one profile, and not entered again.

The format of a profile is: (items in [ ] are not always needed)

| | |
|---|---|
| Line 1: | identification data: depth, bottom time, decompression time, [free character labelling] |
| Line 2: | Originating gas, No. of divers, outcome, [T1, T2] |
| Line 3: | Time, depth, [new gas, switching time] |
| Line 4. | .. Same as line 3 |
| Last line: | -9999.0 |

In many of the files, entries are not column aligned. Files have different digits of precision used for depth and times. Units of time are elapsed minutes; units of depth are feet of sea water gauge (fswg, density assumed of 1.025). In most cases, time-depth entries are only made when a change in the slope of the depth profile changes, such as starting decompression. Between depth entries, the assumption of a linear change can be made to the precision stated in the text.

Gas codes used are:

1.0 Air
2.xy Constant fraction of xy% oxygen in nitrogen
3.mn Constant partial pressure of 0.mn ATA oxygen in nitrogen

When a gas switch occurs, the change in partial pressure of oxygen is assumed to occur linearly over the switching time interval.

Below is an example from set EDU885A of 9 men on an air dive to 60 fsw. It was uneventful except for a delay in descent.

```
 60.0,  182.6,  153.8, AN1005.OUT  42 REPETS= 1
  1.000,      9, 0.0,
  0.00,       0,
  0.20,       7,
  2.50,       7,
  3.90,      47,
  4.60,      41,
  5.60,      60,
 182.60,     60,
 183.90,     20,
 211.40,     20,
 211.70,     10,
 336.10,     10,
 336.40,      0,
1776.40,      0,
-9999.0
```

This example from EDU184 shows one man performing 2 Mk-15 dives and breathing air on the surface. He noticed symptoms of DCS 15 min after the second dive.

```
 150.0,   30.7,   66.3, MDC027.OUT  91 REPETS= 2
 1.000,    1, 1.0,  299.1,  315.0,
   0.00,     0,  3.700,    1.00
   0.20,     7,
   1.30,     7,
   5.80,   150,
  30.70,   150,
  32.80,    80,
  34.30,    80,
  34.50,    70,
  36.50,    70,
  36.70,    60,
  40.20,    60,
  40.50,    50,
  44.20,    50,
  44.40,    40,
  50.00,    40,
  50.30,    30,
  58.90,    30,
  59.10,    20,
  69.50,    20,
```

```
 69.70,    10,
 96.60,    10,
 97.00,     0,  1.000,    1.00
188.10,     0,  3.700,    1.00
188.30,     7,
189.40,     7,
193.70,   150,
217.80,   150,
220.20,    80,
221.50,    80,
221.70,    70,
223.60,    70,
224.10,    60,
227.40,    60,
227.60,    50,
231.30,    50,
231.70,    40,
236.80,    40,
237.20,    30,
245.80,    30,
246.10,    20,
258.00,    20,
258.40,    10,
299.10,    10,
300.00,     0,  1.000,    1.00
1740.00,    0,
-9999.0
```

# APPENDIX B

## DATA FILE SUMMARIES

The following pages are intermediate in detail between the main text descriptions and the data files themselves which are too lengthy to print (several hundred pages). They cross reference the data to other publications (if available), give a summary of exposure conditions, and mention important features that would not be evident from review of other reports. Computer programs used to assist formatting are maintained at the Naval Medical Research Institute, Bethesda, MD.

Study: Thalmann, ED. Air-$N_2O_2$ decompression computer algorithm development. NEDU Report 8-85, Aug 1986

SINGLE AIR DIVES ONLY

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | wet |
| Previous exposure--repet? | Repetitive dives IN EDU885AR. |
| how long to be clean? | min 2 day, details in App C |
| Descent rate | variable, but recorded for each |
| Bottom depth | 50 to 190 fsw (avg = 112) |
| how measured | chamber + water to divers chest (7 ft) |
| Bottom time | 14 to 244 min (avg = 78) |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time | 1.7 to 290 min (avg = 102) |
| Surface interval | none |
| Recompression? | none |
| Gas breathed | air |
| Other factors | |
| exercise | bicycle, 50%, 1.1 lpm $O_2$ |
| subject background | USN, USA, UK, CAN staff divers |
| water temperature | 50-65°F, depend on length |
| Doppler monitoring done? | usually, not for diagnosis |
| Results | |
| how bends defined | symptoms, successfully treated |
| % bends | 30 DCS, of 483 man-dives on 82 profiles |
| distribution | each case listed |
| time of DCS | included for all; $T_2$ generally from Appendix B; T1 based on standard rules |

**Comments:** 1. Obtained tape from EDT with profiles. Used ANAIR (same as MDCFIT except output) to examine, format. Assembled later. Discrepancies resolved with EDT.

2. Included 9 dives (5 DCS) tabulated in Tables 5,6 as repet but diver dropped or treated before 2nd dive.

3. Bottom times usually 3-6 min longer than Tables 4-6; decomp times usually 4-7 min longer than Appendix E.

**Data file:** EDU885A.DAT

Study: NISHI RY. Chamber Dives (wet) At DCIEM (Toronto) 1978-1986

Partially published:


1. Nishi RY, Kisman KE, Buckingham IP, Eatock BC, Masurel G. XDC-2 digital decompression computer: assessment of decompression profiles by ultrasonic monitoring, Phase I: 36-54 msw. DCIEM Report 80-R-32, July 1980.

2. Nishi RY, Eatock BC, Buckingham IC, Masurel G. XDC-2 digital decompression computer: assessment of decompression profiles by ultrasonic monitoring, Phase II:30-75 msw. DCIEM Report 81-R-02, January 1981.

3. Nishi RY, Eatock BC, Buckingham IP, Ridgewell BA. Assessment of decompression profiles by ultrasonic monitoring. Phase III: No-decompression dives. DCIEM Report 82-R-38, August 1982.


Above 3 reports summarized in ref 4 below:


4. Nishi RY, Kisman KE, Eatcock, Buckingham TP, Masurel. Assessment of decompression proifles and divers by doppler ultrasonic monitoring. In: Proceedings VII Symposium on Underwater Physiology, AJ Bachrach and MM Matzen eds., 1982.

5. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series A-F) DCIEM Report 84-R-72, Oct 1984.

6. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series G-K) DCIEM Report 84-R-73, Nov 1984.

7. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series L-Q) DCIEM Report 85-R-18, APR 1985.


| Pressure exposure | |
|---|---|
| Dry or wet | wet (dry is DC4D.DAT) |
| Previous exposure--repet? | no repets, but some at 1/day |
| how long to be clean? | variable, some info in reports |
| Descent rate | variable, but recorded for each |
| Bottom depth | 50 to 265 fsw (avg = 154) |
| how measured | chamber depth. As is for DRF, added 3 fsw for DTF dives |
| Bottom time | 2.9 to 100 min (avg = 24) for DTF, divers into water 6 min early; out 3 min later. |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time | 3.3 to 99 min (avg = 28) |
| Surface interval | none |
| Recompression? | none |
| Gas breathed | air |

| | |
|---|---|
| Other factors | |
| exercise | variable, some recorded |
| subject background | variable, heavily DCIEM staff divers |
| water temperature | usually in records |
| Doppler monitoring done? | usually, results in reports |
| Results | |
| how bends defined | symptoms, (skin entered as marginal) |
| % bends | 8 DCS, 4 marginal of 244 man-dives on 143 profiles |
| distribution | each case listed |

**Comments:** 1. Obtained tape from RYN with CANDID records. Used RMPDIV, DDDIVWET to examine, format. Assembled later. Discrepancies resolved with RYN.

**Data file:** DC4W.DAT

Study: NISHI RY. Chamber Dives (dry) At DCIEM (Toronto) 1978-1986

Partially published:

1. Nishi RY, Kisman KE, Buckingham IP, Eatock BC, Masurel G. XDC-2 digital decompression computer: assessment of decompression profiles by ultrasonic monitoring, Phase I: 36-54 msw. DCIEM Report 80-R-32, July 1980.

2. Nishi RY, Eatock BC, Buckingham IC, Masurel G. XDC-2 digital decompression computer: assessment of decompression profiles by ultrasonic monitoring, Phase II:30-75 msw. DCIEM Report 81-R-02, January 1981.

3. Nishi RY, Eatock BC, Buckingham IP, Ridgewell BA. Assessment of decompression profiles by ultrasonic monitoring. Phase III: No-decompression dives. DCIEM Report 82-R-38, August 1982.

Above 3 reports summarized in ref 4 below:

4. Nishi RY, Kisman KE, Eatcock, Buckingham TP, Masurel. Assessment of decompression proifles and divers by doppler ultrasonic monitoring. In Proceedings VII Symposium on Underwater Physiology, AJ Bachrach and MM Matzen eds., 1982.

5. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series A-F) DCIEM Report 84-R-72, Oct 1984.

6. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series G-K) DCIEM Report 84-R-73, Nov 1984.

7. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series L-Q) DCIEM Report 85-R-18, APR 1985.

| Pressure exposure | |
|---|---|
| Dry or wet | dry (wet is DC4W.DAT) |
| Previous exposure--repet? | no repets, but some at 1/day |
| how long to be clean? | variable, some info in reports |
| Descent rate | variable, but recorded for each |
| Bottom depth | 50 to 290 fsw (avg = 147) |
| how measured | not specified |
| Bottom time | 2 to 120 min (avg = 19) |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time | 1 to 95 min (avg = 24) |
| Surface interval | none |
| Recompression? | none |
| Gas breathed | air |

| | |
|---|---|
| Other factors | |
| exercise | variable, some recorded |
| subject background | variable, heavily DCIEM staff divers |
| water temperature | N/A |
| Doppler monitoring done? | usually, results in reports |
| Results | |
| how bends defined | symptoms, (skin only excluded) |
| % bends | 19 DCS, 4 marginal of 799 man-dives on 254 profiles |
| distribution | each case listed |

**Comments:** 1. Obtained tape from RYN with CANDID records. Used RMPDIV, DDDIV to examine, format. Assembled later. Discrepancies resolved with RYN.

**Data file:** DC4D.DAT

Study: WHITESIDE RC. Submarine escape trials DEEP ESCAPE 87, 13-24 JUL 1987. Reported in FOSM ltr SM4411/4/23MR of 10 Aug 87 and Pearson RR. Medical considerations - DEEP ESCAPEX 1987 In: Proc 7th Tripartite Meeting on Submarine Medicine, 1989.

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | wet |
| Previous exposure--repet? | some subjects repeat 4x in 2 days |
| Descent rate | geometric, doubling in 3-12 sec |
| Bottom depth | from 81 to 602 fswg (avg=340) |
| how measured | depth-time recorder. Resolution of .65 sec, .75 msw |
| Bottom Time | 0.5 to 0.7 min (avg=.55 min) |
| Tot Decompression Time | 0.2 to 1.4 min (avg=.67 min) |
| Ascent rate | 1.2-3.8 msw/sec, (avg=520 ft/min) |
| Surface interval | none |
| Recompression? | none, except casualties |
| Gas breathed | Air |
| Other factors | |
| exercise | no |
| drugs precluded? | ? |
| alcohol precluded? | ? |
| subject background | Royal Navy, other NATO submariners |
| water temperature | cold (Norway fjord) |
| Doppler monitoring done? | no |
| Results | |
| how bends defined | serious symptoms (parasthesias, leg weakness), relieved by HBO |
| % bends | 2/ 58 schedules (another 62 not successfully recorded) |

**Comments:** 1. Data in sec,msw from RYN at DCIEM, all but 5 formatted at NMRI by SS, PKW using SUBFIT using DCIEM-type adaptive fitting/graphing algorithm. Used fsw=msw/.3048. Added 2 fsw as recorder at knee level.

2. Reviewed at NSMRL by PKW to add/delete nodes. Generally ignored 1-bit depth changes. In ascent use .1-.15 min node separation unless visibly nonlinear. First node .02 min before data finally > 0 depth.

3. Data entered with time to 0.01 minutes.

**Data file:** SUBX87.DAT

Study: Thalmann, ED. Air-$N_2O_2$-$HEO_2$ wet/dry decompression study at NMRI. May 1988 - Jan 1989 Air and $N_2$-$O_2$ wet dives ONLY

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | wet |
| Previous exposure--repet? | only last 5 divers in data |
| how long to be clean? | min 2 day, details in App C |
| Descent rate | variable, but recorded for each |
| Bottom depth | 60 fsw nominal (use 61.5 at chest) |
| how measured | chamber + water to divers chest (5.5 ft) |
| Bottom time | 81 to 365 min |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time | no-D (1.5 to 2 min) |
| Surface interval | 20 min for last 5 |
| Recompression? | only for last 5 and treatment |
| Gas breathed | Air or 40% $O_2$ in $N_2$ |
| Other factors | |
| exercise | bicycle, 50%, 1.1 lpm $O_2$ |
| subject background | USN staff divers |
| water temperature | 50-65°F |
| Doppler monitoring done? | |
| Results | |
| how bends defined | symptoms, successfully treated |
| % bends | 5 DCS, 5 marginal of 91 man-dives on 45 profiles |
| distribution | wrist, elbow, shoulder, knee pain |
| time of DCS | included for all except fatigue |

**Comments:** 1. Obtained recorded profiles. Used NSWAIR to examine, format. Assemble later. Discrepancies resolved with EDT.

**Data file:** NMRNSW.DAT

Study: Thalmann, ED. Air-$N_2O_2$ decompression computer algorithm development. NEDU Report 8-85, Aug 1986

REPETITIVE AIR DIVES ONLY

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | wet |
| Previous exposure--repet? | all repets |
| how long to be clean? | min 2 day, details in Appendix C |
| Descent rate | variable, but recorded for each |
| Bottom depth | 1ST DIVE: 80 to 150 fsw (avg = 102)<br>2ND DIVE: 80 to 150 fsw (avg = 102) |
| how measured | chamber + water to divers chest (7 ft) |
| Bottom time | 1ST DIVE: 20 to 66 min (avg = 38)<br>2ND DIVE: 17 to 62 min (avg = 30) |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time | 1ST DIVE: 2 to 97 min (avg = 17)<br>2ND DIVE: 2 to 246 min (avg = 39) |
| Surface interval | 60 to 180 min |
| Recompression? | only for DCS treatment |
| Gas breathed | air |
| Other factors | |
| exercise | bicycle, 50%, 1.1 lpm $O_2$ |
| subject background | USN, USA, UK, CAN staff divers |
| water temperature | 50-65°F, depend on length |
| Doppler monitoring done? | usually, not for diagnosis |
| Results | |
| how bends defined | symptoms, successfully treated |
| % bends | 11 DCS, of 182 man-dives on 31 profiles |
| distribution | each case listed |
| time of DCS | included for all; $T_2$ generally from Appendix B; T1 based on last time of DMO contact or last depth symptom-free. |

**Comments:** 1. Obtained tape from EDT with profiles. Used ANAIR (same as MDCFIT except output) to examine, format. Assembled later. Discrepancies resolved with EDT.

2. Not include 5 dives with DCS during surface interval that are in Table 8. These dives in singles file EDU885A.

3. Bottom times usually 3-6 min longer than Tables 4-6; decomp times usually 4-7 min longer than Appendix E.

**Data file:** EDU885AR.DAT

Study: NISHI RY. -WET- REPEAT Chamber Dives At DCIEM (Toronto) Feb 1984

Partially published:

Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series A-F) DCIEM Report 84-R-72, Oct 1984. (these all Series E)

| | |
|---|---|
| **Pressure exposure** | |
| Dry or wet | wet (dry in DC4DR) |
| Previous exposure--repet? | min 36 hours between |
| how long to be clean? | variable, some info in reports |
| Descent rate | variable, but recorded for each |
| Bottom depth | 59 to 177 fsw |
| how measured | chamber depth (msw) in DRF used linear conversion |
| Bottom time | 20 to 40 min |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time | 5 to 90 min |
| Surface interval | 2 or 3 hours |
| Recompression? | for 2nd dive, and for treatment |
| Specific profiles (4 men ea) | 118/40/50 (120) 118/20/38<br>148/30/56 (120) 148/20/63<br>177/30/88 (180) 59/30/5 |
| Gas breathed | air |
| **Other factors** | |
| exercise | variable, some recorded |
| subject background | variable, heavily DCIEM staff divers |
| water temperature | usually in records |
| Doppler monitoring done? | usually, results in report |
| **Results** | |
| how bends defined | symptoms with treatment |
| % bends | 3 DCS, 0 marginal of 12 man-dives |
| distribution | each case listed |

**Comments:** Obtained data from RYN with CANDID records (DR0272A-286R). Used modification of DRDIVWET to examine, format. Assembled later. Discrepancies resolved with RYN.

**Data file:** DC4WR.DAT

Study: NISHI RY. -DRY- REPEAT Chamber Dives At DCIEM (Toronto) Feb 1984 and Oct 1986; Partially published: Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series A-F) DCIEM Report 84-R-72, Oct 1984. (these all Series E)

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | dry (wet in DC4WR) |
| Previous exposure--repet? | min 36 hours between |
| how long to be clean? | variable, some info in reports |
| Descent rate | variable, but recorded for each |
| Bottom depth | 50 to 177 fsw |
| how measured | chamber depth; when (msw) in DRF used linear conversion |
| Bottom time | 7 to 75 min |
| Ascent rate | about 60 fpm, recorded for all |
| Tot decompression time | 1 to 88 min |
| Surface interval | 3 min to 3 hours |
| Recompression? | for 2nd dive, and for treatment |
| Specific profiles (7-9 men ea) | 118/40/50 (120) 118/20/38<br>148/30/56 (120) 148/20/63<br>177/30/88 (180) 59/30/5 |
| (8-18 men ea) | 60/30/1 ( 60) 60/36/1<br>110/12/2 ( 30) 110/ 9/2<br>130/ 8/2 ( 60) 130/ 7/2<br>120/10/2 ( 60) 60/38/1<br>60/50/1 ( 90) 60/33/1<br>50/75/1 ( 60) 90/12/2 |
| Gas breathed | air |
| Other factors | |
| exercise | variable, some recorded |
| subject background | variable, heavily DCIEM staff divers |
| water temperature | usually in records |
| Doppler monitoring done? | usually, results in report |
| Results | |
| how bends defined | symptoms with treatment |
| % bends | 1 DCS, 0 marginal of 142 man-dives |
| distribution | each case listed |

**Comments:** Obtained data from RYN with CANDID records (DR0272A-286R). Used modification of DRDIVWET to examine, format. Assembled later. Discrepancies resolved with RYN. Similar with CANDID records DD2408A-452R with DDDIV.

**Data file:** DC4WD.DAT

Study: Weathersby PK, Hart BL, Flynn ET, Walker WF. Human Decompression trial in nitrogen-oxygen diving. NMRI Report 86-97, Sept 1986. and Role of oxygen in the production of human decompression sickness. *J Appl Physiol* 63:2080, 1987.

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | wet |
| Previous exposure--repet? | no |
| how long to be clean? | min 7 day, 14+ after DCS |
| Descent rate | about 60 fpm, but recorded for each |
| Bottom depth | 25 to 130 fsw |
| how measured | chamber + water to divers chest (9 ft) |
| Bottom time | 30, 60, or 240 min |
| Ascent rate | 60 fpm until 10 fsw, then 20 sec to 0. |
| Tot decompression time | 0.6 to 2.5 min |
| Surface interval | no |
| Recompression? | only for treatment |
| Gas breathed | half high $O_2$ (40% for 240 min, 35% for 60 min, 30% for 30 min), half low (12% for 240; 10% for 30 and 60). |
| Other factors | |
| exercise | leg sled, 50%, 1.0-1.5 lpm $O_2$ |
| subject background | USN active duty |
| water temperature | 69-72°F, some 240 rise to 76°F |
| Doppler monitoring done? | usually, results blinded |
| Results | |
| how bends defined | symptoms, successfully treated |
| % bends | 11 DCS, 18 Marg of 477 man-dives |
| distribution | each case described |
| time of DCS | included for all; $T_2$ generally from Appendix 3; $T_1$ based on medical exams at +5 min, +60 min, +120 min. |

**Comments:** 1. Data useful for dose-response: at each gas-time combo, have 40% variation in depth.

2. $T_1$-$T_2$ reported in *J Appl Physiol* corrected for 2 inconsistencies.

3. Gas switch times assigned as 20 sec due to line vent and specific hyperventilation.

**Data file:** NMR8697.DAT

Study: Thalmann, ED. Air-$N_2O_2$ decompression computer algorithm development. NEDU Report 8-85, Aug 1986

MK-15 dives only, others in EDU885A, EDU885AR, EDU885S

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | wet |
| Previous exposure--repet? | no |
| how long to be clean? | min 2 day, details in App C |
| Descent rate | variable, but recorded for each |
| Bottom depth | 100 or 150 fsw (avg = 133) |
| how measured | chamber + water to divers chest (7 ft) |
| Bottom time | 33 to 66 min (avg = 51) |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time | 35 to 222 min (avg = 76) |
| Surface interval | N/A |
| Recompression? | only for DCS treatment |
| Gas breathed | constant 0.7 ATA $O_2$ in $N_2$ |
| Other factors | |
| exercise | bicycle, 50%, 1.1 lpm $O_2$ |
| subject background | USN, USA, UK, CAN staff divers |
| water temperature | 50-65°F, depend on length |
| Doppler monitoring done? | usually, not for diagnosis |
| Results | |
| how bends defined | symptoms, successfully treated |
| % bends | 4 DCS, of 81 man-dives |
| distribution | each case listed: knee, elbow and hand pain |
| time of DCS | included for all; $T_2$ generally from Appendix B; $T_1$ based on last time of DMO contact or last depth symptom-free. |

**Comments:** 1. Obtained tape from EDT with profiles. Used ANMARK (same as ANAIR except 1 min gas switches) to examine, format. Assemble later. Discrepancies resolved with EDT.

2. Decompression stops agree with Appendix H to within 2 min despite delays in descent.

**Data file:** EDU885M.DAT

Study: Thalmann, ED. Air-$N_2O_2$ decompression computer algorithm development. NEDU Report 8-85, Aug 1986.

AIR - MK-15 SWITCHING DIVES ONLY (INCLUDES MULTILEVEL)

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | wet |
| Previous exposure--repet? | no |
| how long to be clean? | min 2 day, details in App C |
| Descent rate | variable, but recorded for each |
| Bottom depth | 60 to 150 fsw |
| how measured | chamber + water to divers chest (7 ft) |
| Bottom time | 43 to 124 min |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time | 1 to 125 min |
| Surface interval | 2-3 hr for multilevel at 20 fsw |
| Recompression? | only for multilevel |
| Gas breathed | constant 0.7 ATA $O_2$ in $N_2$ (shallow) and air (deep + final decompression) |
| Other factors | |
| exercise | bicycle, 50%, 1.1 lpm $O_2$ |
| subject background | USN, USA, UK, CAN staff divers |
| water temperature | 50-65°F, depend on length |
| Doppler monitoring done? | usually, not for diagnosis |
| Results | |
| how bends defined | symptoms, successfully treated |
| % bends | 4 DCS, of 94 man-dives (all multilevel) |
| distribution | wrist, elbow, shoulder, knee pain |
| time of DCS | included for all; $T_2$ generally from Appendix B; $T_1$ based on + 30 min or + 2 hr |

**Comments:** 1. Obtained tape from EDT with profiles. Used ANMARK (same as ANAIR except 1 min gas switches) to examine, format. Assemble later. Discrepancies resolved with EDT.

2. Specific discrepancies: gas switch times from original tape; bot 50 fsw single dives switch at leave bottom vs. arrive at 60 feet; 1 diver (AN3017, 20 DEC) omitted due to TT5 used but diagnosis of NOT DCS.

3. Short excursions to change rigs, and final 1-2 min on Mk-15 to exit wetpot ignored.

**Data file:** EDU885S.DAT

Study: Thalmann, ED., Buckingham IP, Spaur WH. Testing of decompression algorithms for use in the U.S. Navy underwater decompression computer. Phase I. NEDU Report 11-80, Aug 1980.

SINGLE Mk-15/16 DIVES ONLY, multilevel in EDU1180R.DAT

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | wet |
| Previous exposure--repet? | no |
| how long to be clean? | min 60 hrs, no details |
| Descent rate | variable, but recorded for each |
| Bottom depth | 75 to 150 fsw (avg = 125) |
| how measured | chamber + water to divers chest (10 ft) |
| Bottom time | 38 to 126 min (avg = 73) |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time | 46 to 176 min (avg = 93) |
| Surface interval | none |
| Recompression? | none |
| Gas breathed | 0.7 ATA $O_2$ in $N_2$ |
| Other factors | |
| exercise | bicycle, <20%, 1.1 lpm $O_2$ |
| subject background | USN, USA, staff divers |
| water temperature | 73-80°F |
| Doppler monitoring done? | usually, not for diagnosis |
| Results | |
| how bends defined | symptoms, successfully treated |
| % bends | 10 DCS, of 120 man-dives |
| distribution | each case listed |
| time of DCS | included for all; $T_2$ generally from Appendix 3; $T_1$ based on standard rules, except case 'o' with some Sx at 60 fsw |

**Comments:** 1. Obtained tape from EDT with profiles. Used MDCFIT to examine and format. Generally ignored depth changes <1.2 fsw and stop times <31 sec. Assembled later. Discrepancies resolved with EDT.

2. Assumed gas switches to take 1 min. Assumed 5 min on Mk-15 before dive, 0 afterwards.

3. Bottom times usually 3-6 min longer than Tables 4-6; decomp times usually 4-7 min longer than Appendix E.

4. Only series 2 (Feb-Mar 78) included. Earlier dives had problems with $O_2$ set-point, descent delays, and no computer records of dive profiles.

**Data file:** EDU1180S.DAT

Study: Thalmann, ED., Buckingham IP, Spaur WH. Testing of decompression algorithms for use in the U.S. Navy underwater decompression computer. Phase I. NEDU Report 11-80, Aug 1980.

MULTI-LEVEL Mk-15/16 DIVES ONLY

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | wet |
| Previous exposure--repet? | SINGLES IN EDU1180S. |
| how long to be clean? | min 60 hrs, no details |
| Descent rate | variable, but recorded for each |
| Bottom depth (deepest) | 75 to 151 fsw (avg = 123) |
| how measured | chamber + water to divers chest (10 ft) |
| Bottom time (until final decomp) | 162 to 270 min (avg = 233) |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time(final) | 31 to 176 min (avg = 102) |
| Shallow interval | 15 to 120 min at 10 or 30 fsw |
| Recompression? | none |
| Gas breathed | 0.7 ATA $O_2$ in $N_2$ (1 DCS case noted to have 0.6 ATA) |
| Other factors | |
| exercise | bicycle, <20%, 1.1 lpm $O_2$ |
| subject background | USN, USA, staff divers |
| water temperature | 73-80°F |
| Doppler monitoring done? | usually, not for diagnosis |
| Results | |
| how bends defined | symptoms, successfully treated |
| % bends | 2 DCS, of 128 man-dives |
| distribution | each case listed |
| time of DCS | included for all; $T_2$ generally from Appendix 3; $T_1$ based on last time of DMO contact or last depth symptom-free. |

**Comments:** 1. Obtained tape from EDT with profiles. Used DIVFIT ?EDUFIT to examine, format. Generally ignored depth change < 1.2 fsw, stop times <31 sec. Assembled later. Discrepancies resolved with EDT.

2. Assumed gas switches to take 1 min. Assumed 5 min on Mk-15 before dive, 0 afterwards.

3. Bottom times usually 3-6 min longer than Tables 4-6; decomp times usually 4-7 min longer than Appendix E.

4. Only series 2 (Feb-Mar 78) included. Earlier dives had problems with $O_2$ set-point, descent delays, and no computer records of dive profiles.

**Data file:** EDU1180R.DAT

Study: Thalmann, ED. Phase II testing of decompression algorithms for use in the U.S. Navy underwater decompression computer. NEDU Report 1-84, Jan 1984.

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | wet |
| Previous exposure--repet? | all but 44 are repets |
| how long to be clean? | usually 36 hr, details in Table 12 |
| Descent rate | variable, but recorded for each |
| Bottom depth | 1ST DIVE: 40 to 150 fsw (avg = 90)<br>2ND DIVE: 60 to 150 fsw |
| how measured | chamber + water to divers chest (7 ft) |
| Bottom time | 1ST DIVE: 20 to 212 min (avg = 74)<br>2ND DIVE: 20 to 48 min (avg = |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time | 1ST DIVE: 2 to 87 min (avg = 16)<br>2ND DIVE: 2 to 186 min (avg = 39) |
| Surface interval | 60 or 80 min |
| Recompression? | only for DCS treatment (except 5) |
| Gas breathed | 0.7 ATA $O_2$ in $N_2$ (Mk-15) |
| Other factors | |
| exercise | bicycle, 50%, 1.1 lpm $O_2$; Run on SI |
| subject background | USN, USA, divers |
| water temperature | 45-65°F, depend on length |
| Doppler monitoring done? | usually, not for diagnosis |
| Results | |
| how bends defined | symptoms, successfully treated |
| % bends | 11 DCS, of 239 man-dives, 42 profil |
| distribution | each case listed |
| time of DCS | included for all; $T_2$ generally from Table 11; $T_1$ by std rules |

**Comments:** 1. Obtained tape from EDT with profiles. Used MDCFIT (some with MDCFIX) to examine, format. Assembled later. Discrepancies resolved with EDT.

2. Two DCS occur at 10/11 fsw stop. entered as never reaching surface. (profile 21, 35).

3. Five cases recompressed with no symptoms. Post-dive surface time truncated at that point (profile 24, surface + 20 m).

**Data file:** EDU184.DAT

Study: NISHI RY. -WET- Air with $O_2$ Decompression Chamber Dives At DCIEM (Toronto) Jul 1979 - Feb 1985.

Partially published:

1. Nishi RY, Lauckner GR, Eatock BC, Hewitt JT. Oxygen decompression techniques for compressed air diving using the XDC-2 decompression computer programmed with the Kidd-Stubbs 1971 model. DCIEM Report 84-R-19, June 1984.

2. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series A-F) DCIEM Report 84-R-72, Oct 1984. (Ser C applies)

3. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series L-Q) DCIEM Report 85-R-18, Apr 1985 (Ser M, P apply)

4. Lauckner GR et al. DCIEM 84-R-73, Ser I. One diver, pain on SI.

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | WET (DRY is DC8AOD.DAT) |
| Previous exposure--repet? | no repets, but some at 1/day |
| how long to be clean? | variable, some info in reports |
| Descent rate | variable, but recorded for each |
| Bottom depth | 90 to 180 fsw (avg = 134) |
| how measured | chamber depth in msw. Then /.3048 and round to nearest fsw |
| Bottom time | 2.3 to 60 min (avg = 42) |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time | 27 to 106 min (avg = 46) |
| Surface interval | none |
| Recompression? | none |
| Gas breathed | air, then $O_2$. Assumed 99.5% (bal. $N_2$) |
| | 1.3 min for switch on, 1.0 for off |
| Other factors | |
| exercise | almost all (moderate) |
| subject background | variable, heavily DCIEM staff divers |
| water temperature | N/A |
| Doppler monitoring done? | usually, results in reports |
| Results | |
| how bends defined | symptoms |
| % bends | 3 DCS, 1 marginal of 46 man-dives |
| distribution | each case listed |
| time of bends | by usual rules |
| | none available for marg on DR0532 |

**Comments:** 1. Obtained tape from RYN with CANDID records $RAWO_2DRF.1$ Used $DRFO_2DIV$ to examine, format. Assembled later. Discrepancies resolved with RYN.
2. Excluded standby divers (half immersed)

**Data file:** DC8AOW.DAT

Study: NISHI RY. -DRY- Air with $O_2$ Decompression Chamber Dives At DCIEM (Toronto) May 1979 - Feb 1987.

Partially published:

1. Nishi RY, Lauckner GR, Eatock BC, Hewitt JT. Oxygen decompression techniques for compressed air diving using the XDC-2 decompression computer programmed with the Kidd-Stubbs 1971 model. DCIEM Report 84-R-19, June 1984.

2. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series A-F). DCIEM Report 84-R-72, Oct 1984. (Ser C applies)

3. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series L-Q). DCIEM Report 85-R-18, Apr 1985. (Ser M, P apply)

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | DRY (WET is DC8AOW.DAT) |
| Previous exposure--repet? | no repets, but some at 1/day |
| how long to be clean? | variable, some info in reports |
| Descent rate | variable, but recorded for each |
| Bottom depth | 60 to 305 fsw (avg = 172) |
| how measured | chamber depth in msw. Then /.3048 and round to nearest fsw |
| Bottom time | 2.3 to 80 min (avg = 34) |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time | 8 to 137 min (avg = 65) |
| Surface interval | none |
| Recompression? | none |
| Gas breathed | air, then $O_2$. Assumed 98.0% (bal. $N_2$) |
| | 1.0 min for switch |
| Other factors | |
| exercise | almost none |
| subject background | variable, heavily DCIEM staff divers |
| water temperature | N/A |
| Doppler monitoring done? | usually, results in reports |

| Results | |
|---|---|
| how bends defined | symptoms |
| % bends | 3 DCS, 2 marginal of 256 man-dives |
| distribution | each case listed |
| time of bends | by usual rules |
| | none available for marg on DR0532 |

**Comments:** 1. Obtained tape from RYN with CANDID records $RAWO_2DRF.1$. Used $DRFO_2DIV$ to examine, format. Discrepancies resolved with RYN.

2. Excluded standby divers (half immersed).

3. Excluded DCS in DR0223A since mask problem made $\%O_2$ delivery quite uncertain.

4. Truncated Marg on DR0448at 51 fsw for start of treatment.

**Data file:** DC8AOD.DAT

Study: Thalmann, ED. et al. Development of air saturation procedures. NEDU Report ? 1979-1988.

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | dry (some short wet excursions to 7 fsw deeper ignored) |
| Previous exposure--repet? | no |
| how long to be clean? | unknown |
| Descent rate | variable, but recorded for each |
| Saturation depth | 11/13 at 60 fsw, 2/13 at 50 fsw |
| how measured | chamber (wet excursions ignored) |
| Bottom time | 46 to 117 hours |
| Ascent time (60 - surf) | 1260 to 2163 min |
| Decompression method | staged: 2 to 10 ft intervals |
| Excursions | 5/13 deeper (94 to 180 fsw) |
| Gas breathed | Air on bottom, but 4/13 breathe down to 18% before decompression |
| Other factors | |
| exercise | sometimes for experiments |
| subject background | USN staff, older than other series |
| water temperature | unknown |
| Doppler monitoring done? | unknown |
| Results | |
| how bends defined | symptoms, successfully treated marginals as fleeting pain or fatigue |
| % bends | 13 DCS, 27 marg of 120 man-dives on 13 profiles |
| distribution | N/A |
| time of DCS | included for DCS; $T_2$ generally from subject report, missing for fatigue; $T_1$ based T2-12h, or sur + 2h |

**Comments:** 1. Obtained partial logs, notes, summaries from E. Thalmann. Additional info obtained at NEDU by B. Hart. Originally entered manually by B. Hart, JR. Hays. Additional entries by PKW.

2. Specific discrepancies: omitted several divers on 165 excursion on Test Plan 86-06. Decompression usually done in 2 fsw stages, approximated as ramps with 7-10 fsw between nodes.

3. Truncated last surface point on plan 79-30 when all divers treated at +380 min.

**Data file:** ASATEDU.DAT

Study: Eckenhoff, R G, SF Osborne, JW Parker, KR Bondi. Direct ascent from shallow air saturation exposures. *Undersea Biomedical Research* 13:305-316, 1986.

MINISAT, Nov 1983 - May 1984

| | |
|---|---|
| Pressure exposure | |
| Time at depth | 48 hrs |
| Time from last excursion to decompression | no excursions |
| depth & duration of last excursion | no excursions |
| Bottom depth | 25.5 and 29.5 FSW |
| Ascent rate | 1.3 min from 25.5; 1.4 min from 29.5 |
| Gas breathed | air |
| Other factors | |
| exercise | none |
| subject background | US Navy divers or chamber personnel |
| Results | |
| incidence of bends | 4 (at 29.5 FSW) out of 34 dives<br>(19 at 25.5 FSW, 15 at 29.5 FSW).<br>20 marginal cases |
| distribution | Knee and ankle pains<br>for DCS<br>Marginal cases included knee and ankle pain and notable fatigue, not treated |

Comments: 1. Marginal cases of DCS were scored as 0.5 in data set.

2. Marginals obtained from review of medical log as manuscript had different categories of outcome and did not count all excessive fatigue as marginal.

**Data file:** ASATNSM.DAT, obs 1-13

Study: Eckenhoff, R G, and Vann, R.D. Air and nitrox saturation decompression: a report of 4 schedules and 77 subjects. *Undersea Biomedical Research* 12:41-52, 1985.

AIRSAT 1 and AIRSAT 2, March 1977 - Feb 1979

| | |
|---|---|
| **Pressure exposure** | |
| Time at depth | over a week |
| Time from last excursion to decompression | 44 & 47 hr |
| depth & duration of last excursion | 100' for 8:15 or 150' for 4:40 |
| Bottom depth | 60 FSW |
| Ascent rate | 1200 min decompression |
| **Gas breathed** | air |
| **Other factors** | |
| exercise | 30 minutes on bicycle ergometer during excursions. |
| subject background | US Navy divers. |
| **Results** | |
| incidence of bends | 1 DCS, 1 Marginal out of 23 |
| distribution of symptoms | knee pain |

**Comment:** Only last excursion entered into data file.

**Data file:** ASATNSM.DAT, obs 14-17

Study: Eckenhoff, R G, and Vann, R.D. Air and nitrox saturation decompression: a report of schedules and 77 subjects. *Undersea Biomedical Research* 12:41-52, 1985.

AIRSAT 3, May 1979 - Feb 1981

| | |
|---|---|
| **Pressure exposure** | |
| Time at depth | 5 days |
| Time from last excursion to decompression | 44 hours |
| depth & duration of last excursion | 198, air, 5 hour |
| Bottom depth | 132 fsw |
| Ascent rate | 3094 min decompression |
| Gas breathed | 0.3 ATA oxygen for first 4 1/2 days at depth, air on excursions, last 24 hour at depth and during decompression. |
| **Other factors** | |
| exercise | none |
| subject background | US Navy divers |
| **Results** | |
| incidence of bends | 3 out of 12 (none on excurs) |
| distribution of symptoms DCS: | knee pain |
| Time of onset | late or after surfacing for $T_2$. $T_1$ -12 h |

**Comments:**

**Data file:** ASATNSM.DAT, obs 18-24

Study: Eckenhoff, R G, and Vann, R.D. Air and nitrox saturation decompression: a report of 4 schedules and 77 subjects. *Undersea Biomedical Research* 12:41-52, 1985.

AIRSAT 4, Sept 1982 - Jan 1984

| | |
|---|---|
| Pressure exposure | |
| Time at depth | 2.5 days |
| Time from last excursion to decompression | no excursions |
| depth & duration of last excursion | no excursions |
| Bottom depth | 132 fsw |
| Ascent rate | 3908 min decompression |
| Gas breathed | 0.3 ATA oxygen for first 12 hours at, depth, air (n=12) or 0.3 ATA $O_2$ (n=6) for the remaining time. Switch to 0.5 ATA oxygen when start decompression, to air thereafter. |
| Other factors | |
| exercise | none |
| subject background | US Navy divers |
| Results | |
| incidence of bends | 1 out of 18 |
| distribution of symptoms DCS: | bilateral knee pain<br>Many others in medical log |

**Comments:** 1. Oxygen toxicity aspect of dives reported in Eckenhoff et al, *Aviat Space Environ Med* 58:658-667, 1987. Severe $O_2$ symptoms appeared to dominate concern in medical exams. Possible marginal DCS symptoms of leg, back pain; paresthesias; fatigue not followed up in documents.

2. Main UBR reference is WRONG in stating exposures identical. Only 12 of 18 received 1.05 ATA $O_2$ exposure; remainder had high $N_2$.

**Data file:** ASATNSM.DAT, obs 25-28

Study: Parker JW. Upward excursion limits from air saturation at 5 ATA. NSMRL Report 1127, Jan 1989.

Airsat 5 series ( Sept 1984 - Sept 1986 )

| | |
|---|---|
| Pressure exposure | |
| Time at depth | 48 hrs |
| Time from last excursion to decompression | no excursions |
| depth & duration of last excursion | no excursions |
| Bottom depth | 111 fsw |
| Ascent rate | rapid ascent to an intermediate depth (70, 65, 60, or 55 fsw), followed by a 24 hr hold, then a slow decompression to surface |
| Gas breathed | 0.4 ATA oxygen until 30 fsw during decomp |
| Other factors | |
| exercise | none |
| subject background | US Navy divers |
| Results | |
| incidence of bends | 9 DCS of 32 divers |
| distribution of symptoms | knee pain(most), shoulder pain, blurred vision all onset times all $T_2$ under pressure. $T_1$ entered as start decomp, or -12 hours |

**Comments:** Six nonsymptomatic divers were recompressed along with companions with DCS; all but one is included with the actual outcome. The other also breathed treatment gas and he is excluded as an unknown outcome. DCS cases at depth are entered as if they had ended at the last pressure before recompression took place. Some profiles and outcomes are different than reported. They follow from interpretations of protocols, logs, and notes examined in 1990.

**Data file:** ASATNSM.DAT, obs 29-41

Study: Parker JW. Upward excursion limits from air saturation at 5 ATA. NSMRL Report 1127, Jan 1989.

AIRSAT 6 series (Oct 1986 - June 1987)

| | |
|---|---|
| Pressure exposure | |
| Time at depth | 72 hrs |
| Time from last excursion to decompression | 12 hr |
| Bottom depth | 111 fsw on 0.4 $O_2$ for 60 hr, then air at 132 |
| Ascent rate | rapid ascent to 74 fsw followed by a 24 hr hold, then a slow decompression to surface |
| Gas breathed | 0.4 ATA oxygen for 60 hr then air |
| Other factors | |
| exercise | none |
| subject background | US Navy divers |
| Results | |
| incidence of bends | 0 of 13 divers on 4 profiles |
| distribution of symptoms | N/A |

**Comments:** Profiles appear slightly erratic due to reconstruction from poor logs. Ascent from 132 to 74 fsw required 2.5 to 5 min rather than at 60 fsw/min as stated in report.

**Data file:** ASATNSM.DAT, obs 42-45

Study: Smith D, Flynn ET, Thalmann, ED. et al. Shallow air saturation procedures. NMRI Report ? June-Aug 1986, July 1988.

| | |
|---|---|
| **Pressure exposure** | |
| Dry or wet | dry (but short wet excursions) |
| Previous exposure--repet? | no |
| how long to be clean? | unknown |
| Descent rate | 0.4 to 5 min |
| Saturation depth | 32 at 20 fsw, 18 at 24 fsw |
| how measured | chamber |
| Bottom time | 3 to 4.5 days |
| Ascent time (60 - surf) | 10-13 min from 20; 0.4 min from 24 |
| Decompression method | bleed, nearly linear |
| Excursions | 2 each on 20 to 22-23 fsw, up to 6 hours each |
| **Gas breathed** | Air |
| **Other factors** | |
| exercise | on excursions |
| subject background | USN divers |
| water temperature | unknown |
| **Doppler monitoring done?** | unknown |
| **Results** | |
| how bends defined | symptoms, successfully treated |
| % bends | 1 DCS from 24 fsw |
| distribution | N/A |
| time of DCS | $T_1$ = + 2 hours check, pain at 2.75 hr |

**Comments:** 1. Obtained summary sheets from ETF, reviewed by HM1 Morato Converted by B. Caplan program to data format. Final changes entered manually by PKW.

2. Depth precision probably better than 0.2 fsw. Excursions entered completely except for events < 10 min.

3. Three divers excurted to surface from 20 fsw and remained several hours.

**Data file:** ASATNMR.DAT

Study: Bell PY, Burgess DW, Hennessy TR, Shields TG, Summerfield M. Rescue under pressure. An investigation into the maximum safe decompression step to a holding pressure of 2 bar. Report ARE(M) R84004, June 1984.

| | |
|---|---|
| Pressure exposure | |
| Time at depth | 48 hrs |
| Time from last excursion to decompression | no excursions |
| depth & duration of last excursion | no excursions |
| Bottom depth | 65 to 78 FSW |
| Ascent rate | 1-2 min to 33 fsw, mod TT5 24h later |
| Gas breathed | 0.5 ATA $O_2$ at depth, then air |
| Other factors | |
| exercise | none |
| subject background | RN submariners (not divers) |
| Results | |
| incidence of bends | 4 DCS, 1 Marg out of 21 man-dives |
| distribution | Mostly knee pains |

**Comments:** 1. Marginal cases of DCS were scored as 0.5 in data set.

2. Data entered from report, with additional info provided by CDR Dave Smith (notes from orig logs, etc).

3. Medical notes never located, some assumptions needed:
   a) use $T_1$ = original decomp time to 33 fsw regardless of $T_2$
   b) assume all divers on treatment gas when 1 DCS seen
   c) in dive 3, assume "overnight" = 0900 for $T_2$
   d) in dive 6, various notes conflict on details of treatment, go with Annex E over log notes
   e) gas switch to air on decompression took 20 min

**Data file:** ASATARE, obs 1-12

Study: Bell PY, English MS, Harris DJ, Nichols G, Torok Z, Harrison JR, Page KT, McLeod MA. Islander 1. An investigation of direct decompression from oxygen/nitrogen saturation to 1 bar. Report ARE(ESD) R88703, Oct 1988., and partially as Bell PY, Harrison JR, Page K, Summerfeld M. An effect of $CO_2$ on the maximum safe direct decompression to 1 bar from oxygen-nitrogen saturation. *Undersea Biomed Res* 13:443-455, 1986

| | |
|---|---|
| Pressure exposure | |
| Time at depth | 48 hrs |
| Time from last excursion to decompression | no excursions |
| depth & duration of last excursion | no excursions |
| Bottom depth | 22.8 or 26.1 FSW |
| Ascent rate | 1.4 to 6 min total |
| Gas breathed | 0.4 ATA $O_2$ at depth, then air (n=30)<br>.38 ATA $O_2$, .02 ATA $CO_2$, then air (n=35) |
| Other factors | |
| exercise | none |
| subject background | RN submariners (not divers) |
| Results | |
| incidence of bends | 4 DCS, 4 Marg out of 65 man-dives |
| distribution | Mostly knee pains not treated |

**Comments:** 1. Marginal cases of DCS were scored as 0.5 in data set.

2. Data entered from report, with additional info provided by CDR Dave Smith (notes from orig logs, etc).

3. Logs incomplete. some assumptions needed:

a) use $T_1$ = original decomp time to 33 fsw regardless of $T_2$
b) included $CO_2$ cases anyway, treated as if $CO_2$ were $O_2$
c) when times to switch pressurization gas not available, assumed it took 10 min after reaching bottom
d) no records of rate of vent back to air during/following decompression. assumed took 20 min
e) marg cases taken as ache/pain, unless definite UMO note of "not DCS"

**Data file:** ASATARE, obs 13-32

Study: Bell PY. Studies of decompression from oxygen/nitrogen saturation (Islander 2). A preliminary report. Report ARE TM (ASP) 86603, June 1986.

| | |
|---|---|
| Pressure exposure | |
| Time at depth | 48 hrs |
| Time from last excursion to decompression | no excursions |
| depth & duration of last excursion | no excursions |
| Bottom depth | 62 to 72 FSW |
| Ascent rate | 1-2 min to 33 fsw, hold 24 h, then 0.5 msw to surface |
| Gas breathed | 0.4 ATA $O_2$ at depth, then air (n=20)<br>0.38 ATA $O_2$, 0.02 ATA $CO_2$ at depth, then air (n=44) |
| Other factors | |
| exercise | none |
| subject background | RN submariners (not divers) |
| Results | |
| incidence of bends | 12 DCS, 8 Marg out of 64 man-dives |
| distribution | Almost equal knee, shoulder pains<br>Marg: fatigue (4), knee, hand, shoul |

**Comments:**
1. Marginal cases of DCS were scored as 0.5 in data set.
2. Data entered from report, with additional info provided by CDR Dave Smith (notes from orig dive logs, med notes).
3. Medical notes better but some assumptions needed:
   a) use T1 = end of last hold depth
   c) marginals all from notes, not in report
   d) dive 9 symptom report so scary, declare as untreated DCS
   e) included $CO_2$ cases anyway, treated as if $CO_2$ were $O_2$
   f) some T2 entries different from Annex B in report due to medical notes

**Data file:** ASATARE, obs 33-64

Study: NISHI RY. et al Chamber Dives At DCIEM (Toronto) Oct 1982 - Feb 1985 using surface decompression with oxygen.

Partially published (except for 6 profiles):

1. Nishi RY, Lauckner GR, Eatock BC, Hewitt JT. Oxygen decompression techniques for compressed air diving using the XDC-2 decompression computer programmed with the Kidd-Stubbs 1971 Model. DCIEM Report 84-R-19, June 1984.

2. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series G-K) DCIEM Report 84-R-73, Nov 1984 (Ser D and G apply).

3. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series L-Q) DCIEM Report 85-R-18, Apr 1985 (Ser H and N apply).

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | mixed (wet only is DC8ASURW) |
| Previous exposure--repet? | no repets, but some at 1/day |
| how long to be clean? | variable, some info in reports |
| Descent rate | variable, but recorded for each |
| Bottom depth | 59 to 236 fsw (avg = 149) |
| how measured | chamber gauge in msw. /.3048=fsw |
| Bottom time | 30 to 70 min (avg = 45) |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time | 30 to 205 min (avg = 86) |
| Surface interval | typical 7.0 min for SI and travel |
| Recompression? | on $O_2$ |
| Gas breathed | air. most also in-W $O_2$ at 30 fsw<br>"$O_2$" entered as 98% (bal $N_2$),<br>except wet in-water, then 99.5% |
| Other factors | |
| exercise | variable, usually mod for wet |
| subject background | variable, heavily DCIEM staff divers |
| water temperature | variable |
| Doppler monitoring done? | usually, results in reports |
| Results | |
| how bends defined | symptoms, (skin only excluded) |
| % bends | 10 DCS, 1 marginal of 358 man-dives. 5 DCS of 98 wet |

distribution mostly pain only

**Comments:** Obtained tape from RYN with CANDID records. Used DRFSUR to examine, format. Gas switches entered interactively, switch time 1.0 min except in-W 30 fsw stop for wet used 1.3 min.Assembled later. Discrepancies resolved with RYN.

**Data file:** DC8ASUR.DAT, DC8ASURW.DAT

Study: NISHI RY. et al Chamber Dives At DCIEM (Toronto) Feb 1984 - Feb 1985 using repetitive in-water and/or surface decompression with oxygen.

Published:

1. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series A-F) DCIEM Report 84-R-72, Oct 1984 (Ser F applies).

2. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series G-K) DCIEM Report 84-R-73, Nov 1984 (Ser I and J apply).

3. Lauckner GR, Nishi RY, Eatock BC. Evaluation of the DCIEM 1983 decompression model for compressed air diving (Series L-Q) DCIEM Report 85-R-18, Apr 1985 (Ser O applies).

| | |
|---|---|
| Pressure exposure | |
| Dry or wet | mixed (wet only is DCSUREPW) |
| Previous exposure--repet? | all repets |
| how long to be clean? | variable, some info in reports |
| Descent rate | variable, but recorded for each |
| Bottom depth | 148 or 177 fsw first dive<br>148 or 60 fsw on 2nd |
| how measured | chamber gauge in msw. /.3048=fsw |
| Bottom time | 30 min on 1st, 20 or 30 on 2nd |
| Ascent rate | 60 fpm for some, recorded for all |
| Tot decompression time | N/A |
| Surface interval | typical 7.0 min for SI and travel<br>2 or 3 h between dives |
| Recompression? | on $O_2$ when surface decompression |
| Gas breathed | air. some also in-W $O_2$ at 30 fsw and chamber at 40 fsw |
| Other factors | |
| exercise | variable, usually mod for wet |
| subject background | variable, heavily DCIEM staff divers |
| water temperature | variable |
| Doppler monitoring done? | usually, results in reports |
| Results | |
| how bends defined | symptoms, (skin only excluded) |
| % bends | 1 DCS, of 69 man-dives (1/17 wet) |

| | |
|---|---|
| distribution | pain on 1st SI, completed full profile (another pain on 1st SI in set DC8AOW) |

**Comments:** Obtained tape from RYN with CANDID records. Used REPDIVO$_2$ to examine, format. Gas switches entered interactively. switch time 1.0 min except in-W 30 fsw stop for wet used 1.3 min. Assembled later. Discrepancies resolved with RYN.

**Data file:** DCSUREP.DAT, DCSUREPW.DAT

Study: Eckenhoff, R G, Osborne, JW Parker. Latency in onset of decompression sickness on direct ascent from air saturation. *J Appl Physiol* 56:1070-1075, 1984.

Studies performed May 1981 - May 1983

| | |
|---|---|
| Pressure exposure | |
| Time at depth | 48 hrs before 1st excursion, 24 between |
| Time from last excursion to sat decompression | 20 hours |
| Depth & duration of excursion to surface: | 7-30 min |
| Bottom depth | 45, 55, 65, and 75 FSW |
| Ascent rate | 2 min on excursions, 32-34 hr on final |
| Gas breathed | air |
| Other factors | |
| exercise | none |
| subject background | US Navy divers or chamber personnel |
| immersion | none |
| Results | |
| incidence of bends | 4 DCS, 3 Marg on 64 excursions by 24 divers on 8 dives. 1 DCS on final decompression |
| distribution | Mostly knee pains. 1 arm + weakness. Many rashes, chest discomfort ignored |
| doppler used? | Yes, reported in paper |

**Comments:** 1. Marginal cases of DCS were scored as 0.5 in data set

2. Marginals obtained from review of medical log as manuscript did not discuss them.

3. Log entries show discrepancies of up to 2.5 min from travel times stated in manuscript.

4. Experimental design had successive excursions from deeper depths on next day (up to 3 total).

**Data files:** SUREX - as actually occurred SUREXM - as if each excursion was independent.

## APPENDIX C

## LIST OF ALL DIVES

This contains a single line entry for each profile contained in every data set. The meaning of the entries is as follows:

| | |
|---|---|
| Column 1: | Text identifying individual dive record in the form chosen by each research group. |
| Column 2: | Sequential number of this profile within the data set. |
| Column 3: | Blank if profile was uneventful; M if the outcome was marginal symptoms; D if outcome was DCS. |
| Column 4: | Number of divers on profile. |
| Column 5: | Main depth of dive in fsw. For simple dives, the maximum depth is used; for multilevel dives, the entry is less informative. |
| Column 6: | Bottom time in min. For simple dives, this corresponds to elapsed time before commencing decompression from main depth. For repetitive dives, the entry is cumulative over all dives. |
| Column 7: | Surfacing time in min. from start of first exposure. |
| Column 8: | (if present) $T_1$ as defined in text |
| Column 9: | (if present) $T_2$ as defined in text |

## EDU885A

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AN1001.OUT REPETS= 2 | 1 | | 10 | 100.0 | 56.1 | 160.9 | | |
| AN1002.OUT REPETS= 1 | 2 | | 10 | 100.0 | 57.0 | 158.2 | | |
| AN1003.OUT REPETS= 1 | 3 | D | 1 | 150.0 | 52.5 | 320.1 | 319.9 | 325.1 |
| AN1003.OUT REPETS= 1 | 4 | D | 1 | 150.0 | 52.5 | 320.1 | 350.1 | 440.1 |
| AN1003.OUT REPETS= 1 | 5 | | 8 | 150.0 | 52.5 | 320.1 | | |
| AN1004.OUT REPETS= 1 | 6 | | 10 | 100.0 | 56.8 | 156.8 | | |
| AN1005.OUT REPETS= 1 | 7 | D | 1 | 60.0 | 177.0 | 336.4 | 456.0 | 756.0 |
| AN1005.OUT REPETS= 1 | 8 | | 9 | 60.0 | 177.0 | 336.4 | | |
| AN1006.OUT REPETS= 1 | 9 | | 10 | 60.0 | 176.9 | 336.5 | | |
| AN1007.OUT REPETS= 1 | 10 | | 9 | 100.0 | 55.0 | 125.8 | | |
| AN1008.OUT REPETS= 1 | 11 | | 9 | 60.0 | 91.4 | 110.2 | | |
| AN1009.OUT REPETS= 1 | 12 | | 10 | 100.0 | 57.1 | 121.6 | | |
| AN1010.OUT REPETS= 1 | 13 | D | 1 | 150.0 | 55.3 | 215.3 | 165.5 | 275.0 |
| AN1010.OUT REPETS= 2 | 14 | D | 1 | 150.0 | 55.3 | 354.5 | 475.0 | 775.0 |
| AN1010.OUT REPETS= 2 | 15 | D | 1 | 150.0 | 55.3 | 354.5 | 475.0 | 1495.0 |
| AN1010.OUT REPETS= 2 | 16 | | 7 | 150.0 | 55.3 | 354.5 | | |
| AN1011.OUT REPETS= 1 | 17 | | 10 | 100.0 | 56.3 | 121.9 | | |
| AN1012.OUT REPETS= 1 | 18 | D | 1 | 60.0 | 178.2 | 254.1 | 374.0 | 554.0 |
| AN1012.OUT REPETS= 1 | 19 | D | 1 | 60.0 | 178.2 | 254.1 | 374.0 | 524.0 |
| AN1012.OUT REPETS= 1 | 20 | D | 1 | 60.0 | 178.2 | 254.1 | 182.2 | 494.0 |
| AN1012.OUT REPETS= 1 | 21 | | 7 | 60.0 | 178.2 | 254.1 | | |
| AN1013.OUT REPETS= 1 | 22 | D | 1 | 60.0 | 178.7 | 293.8 | 203.6 | 293.6 |
| AN1013.OUT REPETS= 1 | 23 | D | 1 | 60.0 | 178.7 | 293.8 | 323.8 | 444.0 |
| AN1013.OUT REPETS= 1 | 24 | D | 2 | 60.0 | 178.7 | 293.8 | 323.8 | 474.0 |
| AN1013.OUT REPETS= 1 | 25 | | 6 | 60.0 | 178.7 | 293.8 | | |
| AN1014.OUT REPETS= 1 | 26 | | 9 | 100.0 | 54.5 | 105.2 | | |
| AN1015.OUT REPETS= 1 | 27 | D | 1 | 120.0 | 54.7 | 154.3 | 64.0 | 154.1 |
| AN1015.OUT REPETS= 1 | 28 | | 9 | 120.0 | 54.7 | 154.3 | | |
| AN1016.OUT REPETS= 1 | 29 | | 10 | 100.0 | 27.1 | 37.1 | | |
| AN1017.OUT REPETS= 1 | 30 | | 10 | 100.0 | 28.2 | 38.3 | | |
| AN1018.OUT REPETS= 1 | 31 | | 10 | 120.0 | 56.7 | 153.9 | | |
| AN1019.OUT REPETS= 1 | 32 | | 10 | 150.0 | 9.2 | 20.8 | | |
| AN1020.OUT REPETS= 2 | 33 | | 10 | 150.0 | 8.3 | 23.0 | | |
| AN1021.OUT REPETS= 1 | 34 | D | 1 | 147.0 | 35.3 | 134.2 | 254.0 | 434.0 |
| AN1021.OUT REPETS= 1 | 35 | | 9 | 147.0 | 35.3 | 134.2 | | |
| AN1022.OUT REPETS= 1 | 36 | | 10 | 150.0 | 34.8 | 133.1 | | |
| AN1023.OUT REPETS= 1 | 37 | | 9 | 60.0 | 64.7 | 70.3 | | |
| AN1024.OUT REPETS= 2 | 38 | D | 1 | 150.0 | 35.7 | 139.2 | 259.0 | 559.0 |
| AN1024.OUT REPETS= 2 | 39 | | 8 | 150.0 | 35.7 | 139.2 | | |
| AN1025.OUT REPETS= 1 | 40 | | 10 | 60.0 | 64.8 | 70.7 | | |

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|---|---|---|---|---|---|---|---|---|
| AN1026.OUT REPETS= 1 | 41 | | 10 | 60.0 | 64.8 | 70.3 | | |
| AN1027.OUT REPETS= 2 | 42 | | 9 | 150.0 | 32.8 | 147.9 | | |
| AN1028.OUT REPETS= 2 | 43 | | 9 | 150.0 | 35.4 | 145.3 | | |
| AN1029.OUT REPETS= 1 | 44 | | 10 | 100.0 | 88.3 | 305.6 | | |
| AN1030.OUT REPETS= 1 | 45 | | 9 | 100.0 | 88.1 | 304.8 | | |
| AN1031.OUT REPETS= 1 | 46 | | 10 | 190.0 | 6.0 | 20.1 | | |
| AN1032.OUT REPETS= 1 | 47 | D | 1 | 190.0 | 35.6 | 281.5 | 311.5 | 461.0 |
| AN1032.OUT REPETS= 1 | 48 | D | 1 | 190.0 | 35.6 | 281.5 | 401.0 | 521.0 |
| AN1032.OUT REPETS= 1 | 49 | | 8 | 190.0 | 35.6 | 281.5 | | |
| AN1033.OUT REPETS= 1 | 50 | | 9 | 190.0 | 7.4 | 22.4 | | |
| AN1034.OUT REPETS= 1 | 51 | | 9 | 120.0 | 20.1 | 30.8 | | |
| AN1035.OUT REPETS= 1 | 52 | | 9 | 190.0 | 24.4 | 141.5 | | |
| AN1036.OUT REPETS= 1 | 53 | | 10 | 120.0 | 20.8 | 32.2 | | |
| AN1037.OUT REPETS= 1 | 54 | | 10 | 50.0 | 239.0 | 403.7 | | |
| AN1038.OUT REPETS= 1 | 55 | | 10 | 190.0 | 21.8 | 140.1 | | |
| AN1039.OUT REPETS= 1 | 56 | D | 1 | 120.0 | 76.6 | 350.0 | 470.0 | 770.0 |
| AN1039.OUT REPETS= 1 | 57 | D | 1 | 120.0 | 76.6 | 350.0 | 470.0 | 2680.0 |
| AN1039.OUT REPETS= 1 | 58 | | 8 | 120.0 | 76.6 | 350.0 | | |
| AN1040.OUT REPETS= 1 | 59 | | 10 | 60.0 | 124.8 | 186.6 | | |
| AN1041.OUT REPETS= 1 | 60 | D | 1 | 120.0 | 67.1 | 285.6 | 72.9 | 287.6 |
| AN1041.OUT REPETS= 1 | 61 | D | 1 | 120.0 | 67.1 | 285.6 | 406.0 | 1246.0 |
| AN1041.OUT REPETS= 1 | 62 | | 8 | 120.0 | 67.1 | 285.6 | | |
| AN1042.OUT REPETS= 1 | 63 | | 10 | 50.0 | 240.4 | 403.1 | | |
| AN1045.OUT REPETS= 1 | 64 | D | 1 | 120.0 | 57.0 | 212.0 | 242.0 | 362.0 |
| AN1045.OUT REPETS= 1 | 65 | | 9 | 120.0 | 57.0 | 212.0 | | |
| AN1048.OUT REPETS= 1 | 66 | | 8 | 60.0 | 118.4 | 183.2 | | |
| AN2002.OUT REPETS= 1 | 67 | D | 1 | 150.0 | 36.5 | 146.7 | 88.0 | 146.7 |
| AN2002.OUT REPETS= 1 | 68 | | 9 | 150.0 | 36.5 | 146.7 | | |
| AN2004.OUT REPETS= 1 | 69 | | 9 | 120.0 | 56.6 | 218.3 | | |
| AN2005.OUT REPETS= 1 | 70 | | 10 | 120.0 | 56.9 | 216.7 | | |
| AN2009.OUT REPETS= 1 | 71 | | 1 | 150.0 | 34.7 | 141.9 | | |
| AN2010.OUT REPETS= 1 | 72 | | 1 | 100.0 | 57.3 | 121.9 | | |
| AN2012.OUT REPETS= 1 | 73 | D | 1 | 100.0 | 57.0 | 135.7 | 65.9 | 155.7 |
| AN2012.OUT REPETS= 1 | 74 | | 1 | 100.0 | 57.0 | 135.7 | | |
| AN2017.OUT REPETS= 1 | 75 | D | 1 | 100.0 | 27.6 | 37.4 | 47.4 | 77.4 |
| AN2018.OUT REPETS= 1 | 76 | | 8 | 80.0 | 117.5 | 339.3 | | |
| AN2019.OUT REPETS= 1 | 77 | D | 1 | 100.0 | 27.1 | 37.2 | 33.2 | 42.2 |
| AN2019.OUT REPETS= 1 | 78 | D | 1 | 100.0 | 27.1 | 37.2 | 33.2 | 62.2 |
| AN2019.OUT REPETS= 1 | 79 | D | 1 | 100.0 | 27.1 | 37.2 | 33.2 | 77.2 |
| AN2020.OUT REPETS= 1 | 80 | D | 1 | 80.0 | 117.3 | 339.1 | 459.0 | 1299.0 |
| AN2020.OUT REPETS= 1 | 81 | | 9 | 80.0 | 117.3 | 339.1 | | |
| AN3008.OUT REPETS= 1 | 82 | | 1 | 80.0 | 37.0 | 43.3 | | |

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|---|---|---|---|---|---|---|---|
| DR0003A REPETS= 1 | 1 D | 1 | 117.0 | 47.3 | 107.7 | 228.0 | 1188.0 |
| DR0003A REPETS= 1 | 2 | 1 | 117.0 | 47.3 | 107.7 | | |
| DR0006A REPETS= 1 | 3 | 2 | 117.0 | 37.5 | 81.5 | | |
| DR0007A REPETS= 1 | 4 | 2 | 117.0 | 37.2 | 83.4 | | |
| DR0009A REPETS= 1 | 5 | 2 | 118.0 | 25.1 | 61.7 | | |
| DR0010A REPETS= 1 | 6 | 2 | 119.0 | 27.7 | 63.5 | | |
| DR0011A REPETS= 1 | 7 | 2 | 148.0 | 16.7 | 52.0 | | |
| DR0012A REPETS= 1 | 8 | 2 | 150.0 | 27.3 | 80.5 | | |
| DR0014A REPETS= 1 | 9 | 2 | 148.0 | 20.3 | 62.2 | | |
| DR0015A REPETS= 1 | 10 | 2 | 148.0 | 21.7 | 63.8 | | |
| DR0016A REPETS= 1 | 11 D | 1 | 148.0 | 27.1 | 77.2 | 197.2 | 857.0 |
| DR0016A REPETS= 1 | 12 | 1 | 148.0 | 27.1 | 77.2 | | |
| DR0019A REPETS= 1 | 13 | 2 | 177.0 | 11.0 | 47.0 | | |
| DR0021A REPETS= 1 | 14 | 2 | 177.0 | 14.8 | 60.0 | | |
| DR0022A REPETS= 1 | 15 | 2 | 178.0 | 16.2 | 62.0 | | |
| DR0023A REPETS= 1 | 16 | 2 | 178.0 | 21.6 | 80.7 | | |
| DR0024A REPETS= 1 | 17 | 2 | 177.0 | 21.8 | 81.0 | | |
| DR0025A REPETS= 1 | 18 | 2 | 178.0 | 11.8 | 47.6 | | |
| DR0026A REPETS= 1 | 19 | 2 | 217.0 | 6.2 | 41.0 | | |
| DR0027A REPETS= 1 | 20 | 2 | 217.0 | 5.9 | 41.0 | | |
| DR0028A REPETS= 1 | 21 | 2 | 246.0 | 5.9 | 48.2 | | |
| DR0029A REPETS= 1 | 22 | 2 | 247.0 | 4.6 | 42.8 | | |
| DR0030A REPETS= 1 | 23 | 2 | 217.0 | 11.3 | 60.4 | | |
| DR0031A REPETS= 1 | 24 | 2 | 217.0 | 11.4 | 59.0 | | |
| DR0032A REPETS= 1 | 25 | 2 | 98.0 | 53.5 | 96.0 | | |
| DR0033A REPETS= 1 | 26 | 2 | 100.0 | 53.5 | 96.8 | | |
| DR0034A REPETS= 1 | 27 | 2 | 177.0 | 17.3 | 62.8 | | |
| DR0035A REPETS= 1 | 28 | 2 | 179.0 | 21.9 | 82.5 | | |
| DD1692A REPETS= 1 | 29 | 2 | 97.0 | 66.0 | 139.1 | | |
| DD1694A REPETS= 1 | 30 | 2 | 148.0 | 41.0 | 130.1 | | |
| DD1695A REPETS= 1 | 31 D | 1 | 199.0 | 20.0 | 107.1 | 135.0 | 165.0 |
| DD1695A REPETS= 1 | 32 M | 1 | 199.0 | 20.0 | 107.1 | 135.0 | 255.0 |
| DD1719A REPETS= 1 | 33 | 2 | 99.0 | 25.0 | 57.1 | | |
| DD1720A REPETS= 1 | 34 | 2 | 99.0 | 25.0 | 55.1 | | |
| DD1724A REPETS= 1 | 35 | 1 | 183.0 | 9.0 | 49.6 | | |
| DD1734A REPETS= 1 | 36 | 2 | 168.0 | 5.0 | 34.1 | | |
| DD1735A REPETS= 1 | 37 | 2 | 168.0 | 3.0 | 35.1 | | |
| DD1736A REPETS= 1 | 38 | 2 | 168.0 | 3.0 | 30.1 | | |
| DD1737A REPETS= 1 | 39 | 2 | 168.0 | 3.0 | 31.1 | | |
| DD1738A REPETS= 1 | 40 | 2 | 168.0 | 5.0 | 33.1 | | |

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|---|---|---|---|---|---|---|---|---|
| DD1751A REPETS= 1 | 41 | | 2 | 178.0 | 9.0 | 52.1 | | |
| DD1760A REPETS= 1 | 42 | | 2 | 178.0 | 8.0 | 46.1 | | |
| DD1761A REPETS= 1 | 43 | | 2 | 178.0 | 5.0 | 49.1 | | |
| DD1798A REPETS= 1 | 44 | | 2 | 98.0 | 11.0 | 29.1 | | |
| DD1799A REPETS= 1 | 45 | | 2 | 98.0 | 11.0 | 29.1 | | |
| DD1802A REPETS= 1 | 46 | | 2 | 173.0 | 9.0 | 48.1 | | |
| DD1803A REPETS= 1 | 47 | | 2 | 173.0 | 8.0 | 48.1 | | |
| DD1804A REPETS= 1 | 48 | | 2 | 172.0 | 10.0 | 50.1 | | |
| DD1805A REPETS= 2 | 49 | | 1 | 173.0 | 7.0 | 41.1 | | |
| DD1806A REPETS= 1 | 50 | | 2 | 198.0 | 6.0 | 45.1 | | |
| DD1807A REPETS= 1 | 51 | | 2 | 198.0 | 8.0 | 49.1 | | |
| DD1808A REPETS= 1 | 52 | | 1 | 198.0 | 7.0 | 57.1 | | |
| DD1809A REPETS= 1 | 53 | | 2 | 198.0 | 8.0 | 49.1 | | |
| DD1815A REPETS= 1 | 54 | | 2 | 168.0 | 9.0 | 46.1 | | |
| DD1831A REPETS= 1 | 55 | | 1 | 177.0 | 5.0 | 35.1 | | |
| DD1832A REPETS= 1 | 56 | | 2 | 168.0 | 5.0 | 32.1 | | |
| DD1865A REPETS= 1 | 57 | | 2 | 198.0 | 6.0 | 42.1 | | |
| DD1866A REPETS= 1 | 58 | | 2 | 168.0 | 4.0 | 34.1 | | |
| DD1867A REPETS= 1 | 59 | | 2 | 167.0 | 4.0 | 34.1 | | |
| DD1868A REPETS= 1 | 60 | | 2 | 168.0 | 4.0 | 35.1 | | |
| DD1869A REPETS= 1 | 61 | | 1 | 198.0 | 3.0 | 35.1 | | |
| DR0201A REPETS= 1 | 62 | | 1 | 118.0 | 22.9 | 45.9 | | |
| DR0202A REPETS= 1 | 63 | | 2 | 148.0 | 17.5 | 44.9 | | |
| DR0203A REPETS= 1 | 64 | | 1 | 59.0 | 79.0 | 91.1 | | |
| DR0204A REPETS= 1 | 65 | | 2 | 89.0 | 38.1 | 57.1 | | |
| DR0205A REPETS= 1 | 66 | | 1 | 118.0 | 22.9 | 44.2 | | |
| DR0206A REPETS= 1 | 67 | | 1 | 148.0 | 17.9 | 44.6 | | |
| DR0207A REPETS= 1 | 68 | | 2 | 177.0 | 10.8 | 40.1 | | |
| DR0208A REPETS= 1 | 69 | | 2 | 118.0 | 47.6 | 119.6 | | |
| DR0209A REPETS= 1 | 70 | M | 1 | 148.0 | 27.5 | 87.7 | 30.0 | 208.0 |
| DR0209A REPETS= 1 | 71 | | 1 | 148.0 | 27.5 | 87.7 | | |
| DR0210A REPETS= 1 | 72 | | 1 | 170.0 | 22.0 | 91.5 | | |
| DR0211A REPETS= 1 | 73 | | 1 | 119.0 | 48.0 | 121.0 | | |
| DR0214A REPETS= 1 | 74 | | 1 | 177.0 | 18.0 | 73.0 | | |
| DR0280A REPETS= 1 | 75 | | 2 | 177.0 | 27.1 | 119.5 | | |
| DR0284A REPETS= 1 | 76 | | 2 | 177.0 | 26.6 | 116.2 | | |
| DR0302A REPETS= 1 | 77 | | 2 | 49.0 | 99.0 | 106.0 | | |
| DR0303A REPETS= 1 | 78 | | 2 | 89.0 | 58.4 | 102.5 | | |
| DR0307A REPETS= 1 | 79 | | 2 | 89.0 | 58.3 | 101.5 | | |
| DR0340A REPETS= 1 | 80 | | 2 | 148.0 | 36.7 | 124.6 | | |
| DR0352A REPETS= 1 | 81 | | 2 | 108.0 | 7.8 | 13.3 | | |
| DR0364A REPETS= 1 | 82 | | 2 | 118.0 | 48.1 | 118.3 | | |
| DR0368A REPETS= 1 | 83 | | 1 | 148.0 | 36.2 | 121.4 | | |

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|---|---|---|---|---|---|---|---|
| DR0375A REPETS= 1 | 84 | 1 | 148.0 | 11.3 | 32.5 | | |
| DD1877A REPETS= 1 | 85 | 1 | 98.0 | 27.7 | 49.5 | | |
| DD1878A REPETS= 1 | 86 | 1 | 98.0 | 26.2 | 49.2 | | |
| DD1883A REPETS= 1 | 87 | 1 | 150.0 | 5.0 | 20.1 | | |
| DD1884A REPETS= 1 | 88 | 1 | 57.0 | 37.5 | 50.3 | | |
| DD1892A REPETS= 1 | 89 | 1 | 151.0 | 9.6 | 23.6 | | |
| DD1893A REPETS= 1 | 90 | 2 | 98.0 | 10.2 | 31.6 | | |
| DD1894A REPETS= 1 | 91 | 2 | 200.0 | 5.0 | 38.4 | | |
| DD1895A REPETS= 1 | 92 | 2 | 199.0 | 5.1 | 39.6 | | |
| DD1896A REPETS= 1 | 93 | 1 | 201.0 | 4.7 | 20.6 | | |
| DD1899A REPETS= 1 | 94 | 1 | 231.0 | 1.1 | 18.0 | | |
| DD1900A REPETS= 1 | 95 | 1 | 231.0 | 4.0 | 19.1 | | |
| DD1901A REPETS= 1 | 96 | 1 | 231.0 | 2.1 | 18.9 | | |
| DD1902A REPETS= 1 | 97 | 2 | 101.0 | 12.4 | 24.8 | | |
| DD1905A REPETS= 1 | 98 | 2 | 101.0 | 19.3 | 31.8 | | |
| DD1906A REPETS= 1 | 99 | 2 | 100.0 | 19.3 | 31.8 | | |
| DD1907A REPETS= 1 | 100 | 2 | 100.0 | 26.4 | 38.8 | | |
| DD1908A REPETS= 1 | 101 | 2 | 100.0 | 26.3 | 38.8 | | |
| DD1909A REPETS= 1 | 102 | 2 | 149.0 | 8.9 | 22.9 | | |
| DD1910A REPETS= 1 | 103 | 2 | 150.0 | 8.8 | 23.0 | | |
| DD1911A REPETS= 1 | 104 | 2 | 150.0 | 13.1 | 27.1 | | |
| DD1912A REPETS= 1 | 105 | 2 | 150.0 | 13.0 | 27.2 | | |
| DD1913A REPETS= 1 | 106 | 2 | 200.0 | 6.7 | 22.6 | | |
| DD1914A REPETS= 1 | 107 | 2 | 200.0 | 6.7 | 22.5 | | |
| DD1915A REPETS= 1 | 108 | 2 | 68.0 | 38.9 | 50.2 | | |
| DD1916A REPETS= 1 | 109 M | 1 | 57.0 | 59.1 | 70.1 | 157.0 | 307.0 |
| DD1916A REPETS= 1 | 110 | 1 | 57.0 | 59.1 | 70.1 | | |
| DD1917A REPETS= 1 | 111 | 2 | 80.0 | 38.7 | 50.4 | | |
| DD1918A REPETS= 1 | 112 M | 1 | 65.0 | 58.9 | 70.2 | 187.1 | 427.0 |
| DD1918A REPETS= 1 | 113 | 1 | 65.0 | 58.9 | 70.2 | | |
| DD1919A REPETS= 1 | 114 | 2 | 64.0 | 59.0 | 70.2 | | |
| DD1920A REPETS= 1 | 115 | 2 | 232.0 | 3.7 | 20.7 | | |
| DD1921A REPETS= 1 | 116 | 2 | 232.0 | 3.6 | 20.6 | | |
| DD1922A REPETS= 1 | 117 | 2 | 232.0 | 3.6 | 20.7 | | |
| DD1923A REPETS= 1 | 118 | 2 | 265.0 | 1.1 | 19.2 | | |
| DD1924A REPETS= 1 | 119 | 2 | 265.0 | 1.1 | 19.2 | | |
| DD1926A REPETS= 1 | 120 | 2 | 150.0 | 13.6 | 27.6 | | |
| DD1928A REPETS= 1 | 121 | 2 | 150.0 | 13.6 | 27.5 | | |
| DD1929A REPETS= 1 | 122 | 4 | 149.0 | 13.0 | 27.1 | | |
| DD1932A REPETS= 1 | 123 | 2 | 150.0 | 11.8 | 25.8 | | |
| DD1933A REPETS= 1 | 124 D | 1 | 198.0 | 5.8 | 21.4 | 138.3 | 288.0 |
| DD1933A REPETS= 1 | 125 | 1 | 198.0 | 5.8 | 21.4 | | |
| DD1935A REPETS= 1 | 126 | 2 | 198.0 | 5.7 | 21.6 | | |

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|---|---|---|---|---|---|---|---|
| DD1936A REPETS= 1 | 127 D | 1 | 231.0 | 2.8 | 19.8 | 12.8 | 29.8 |
| DD1936A REPETS= 1 | 128 D | 1 | 231.0 | 2.8 | 19.8 | 136.7 | 737.0 |
| DD1967A REPETS= 1 | 129 | 2 | 179.0 | 4.3 | 44.1 | | |
| DD1999A REPETS= 1 | 130 | 1 | 178.0 | 10.1 | 57.0 | | |
| DD2000A REPETS= 1 | 131 D | 1 | 168.0 | 6.1 | 37.1 | 64.0 | 94.0 |
| DD2000A REPETS= 1 | 132 | 1 | 168.0 | 6.1 | 37.1 | | |
| DD2002A REPETS= 1 | 133 | 2 | 167.0 | 6.7 | 37.1 | | |
| DD2014A REPETS= 1 | 134 | 2 | 99.0 | 14.3 | 37.3 | | |
| DD2015A REPETS= 1 | 135 | 2 | 99.0 | 15.1 | 37.5 | | |
| DD2094A REPETS= 1 | 136 | 2 | 183.0 | 5.5 | 33.6 | | |
| DD2283A REPETS= 1 | 137 | 1 | 98.0 | 11.0 | 29.1 | | |
| DD2378A REPETS= 1 | 138 | 2 | 103.0 | 8.1 | 22.0 | | |
| DD2278A REPETS= 1 | 139 | 3 | 100.0 | 16.1 | 27.3 | | |
| DD2279A REPETS= 1 | 140 | 3 | 100.0 | 11.1 | 18.3 | | |
| DD1693A REPETS= 1 | 141 D | 1 | 149.0 | 38.0 | 128.1 | 244.0 | 364.0 |
| DD1693A REPETS= 1 | 142 | 1 | 149.0 | 38.0 | 128.1 | | |
| DD1782A REPETS= 1 | 143 | 1 | 200.0 | 2.0 | 47.1 | | |

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|---|---|---|---|---|---|---|---|
| DR0002A REPETS= 1 | 1 | 4 | 166.0 | 5.1 | 28.6 | | |
| DR0003A REPETS= 1 | 2 D | 1 | 117.0 | 47.3 | 107.7 | 228.0 | 1130.0 |
| DR0003A REPETS= 1 | 3 D | 1 | 117.0 | 47.3 | 107.7 | 138.0 | 168.0 |
| DR0003A REPETS= 1 | 4 M | 1 | 117.0 | 47.3 | 107.7 | 228.0 | 1368.0 |
| DR0003A REPETS= 1 | 5 | 1 | 117.0 | 47.3 | 107.7 | | |
| DR0006A REPETS= 1 | 6 | 4 | 117.0 | 37.5 | 81.5 | | |
| DR0007A REPETS= 1 | 7 D | 1 | 117.0 | 37.2 | 83.4 | 203.0 | 323.0 |
| DR0007A REPETS= 1 | 8 | 3 | 117.0 | 37.2 | 83.4 | | |
| DR0009A REPETS= 1 | 9 | 4 | 118.0 | 25.1 | 61.7 | | |
| DR0010A REPETS= 1 | 10 | 4 | 119.0 | 27.7 | 63.5 | | |
| DR0011A REPETS= 1 | 11 | 4 | 148.0 | 16.7 | 52.0 | | |
| DR0012A REPETS= 1 | 12 D | 1 | 150.0 | 27.3 | 80.5 | 79.2 | 88.5 |
| DR0012A REPETS= 1 | 13 | 3 | 150.0 | 27.3 | 80.5 | | |
| DR0014A REPETS= 1 | 14 | 4 | 148.0 | 20.3 | 62.2 | | |
| DR0015A REPETS= 1 | 15 | 4 | 148.0 | 21.7 | 63.8 | | |
| DR0016A REPETS= 1 | 16 | 4 | 148.0 | 27.1 | 77.2 | | |
| DR0019A REPETS= 1 | 17 D | 1 | 177.0 | 11.0 | 47.0 | 47.0 | 158.0 |
| DR0019A REPETS= 1 | 18 | 3 | 177.0 | 11.0 | 47.0 | | |
| DR0021A REPETS= 1 | 19 | 4 | 177.0 | 14.8 | 60.0 | | |
| DR0022A REPETS= 1 | 20 | 4 | 178.0 | 16.2 | 62.0 | | |
| DR0023A REPETS= 1 | 21 | 4 | 178.0 | 21.6 | 80.7 | | |
| DR0024A REPETS= 1 | 22 | 2 | 177.0 | 21.8 | 81.0 | | |
| DR0024A REPETS= 1 | 23 M | 2 | 177.0 | 21.8 | 81.0 | | |
| DR0025A REPETS= 1 | 24 | 4 | 178.0 | 11.8 | 47.6 | | |
| DR0026A REPETS= 1 | 25 | 5 | 217.0 | 6.2 | 41.0 | | |
| DR0027A REPETS= 1 | 26 | 5 | 217.0 | 5.9 | 41.0 | | |
| DR0028A REPETS= 1 | 27 | 5 | 246.0 | 5.9 | 48.2 | | |
| DR0029A REPETS= 1 | 28 | 5 | 247.0 | 4.6 | 42.8 | | |
| DR0030A REPETS= 1 | 29 | 5 | 217.0 | 11.3 | 60.4 | | |
| DR0031A REPETS= 1 | 30 | 5 | 217.0 | 11.4 | 59.0 | | |
| DR0032A REPETS= 1 | 31 | 5 | 98.0 | 53.5 | 96.0 | | |
| DR0033A REPETS= 1 | 32 | 5 | 100.0 | 53.5 | 96.8 | | |
| DR0034A REPETS= 1 | 33 | 5 | 177.0 | 17.3 | 62.8 | | |
| DR0035A REPETS= 1 | 34 | 5 | 179.0 | 21.9 | 82.5 | | |
| DR0036A REPETS= 1 | 35 | 1 | 59.0 | 117.0 | 148.5 | | |
| DR0040A REPETS= 1 | 36 | 1 | 59.0 | 117.2 | 149.5 | | |
| DD1692A REPETS= 1 | 37 | 2 | 94.0 | 66.0 | 124.0 | | |
| DD1693A REPETS= 1 | 38 D | 1 | 146.0 | 38.0 | 118.0 | 238.0 | 1320.0 |
| DD1693A REPETS= 1 | 39 | 1 | 146.0 | 38.0 | 118.0 | | |
| DD1694A REPETS= 1 | 40 D | 1 | 145.0 | 41.0 | 118.0 | 128.0 | 148.0 |

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|---|---|---|---|---|---|---|---|---|
| DD1694A REPETS= 1 | 41 | | 1 | 145.0 | 41.0 | 118.0 | | |
| DD1695A REPETS= 1 | 42 | D | 1 | 196.0 | 20.0 | 99.0 | 219.0 | 1300.0 |
| DD1695A REPETS= 1 | 43 | | 1 | 196.0 | 20.0 | 99.0 | | |
| DD1708A REPETS= 1 | 44 | | 7 | 170.0 | 4.0 | 31.0 | | |
| DD1711A REPETS= 1 | 45 | | 6 | 200.0 | 6.0 | 34.0 | | |
| DD1712A REPETS= 1 | 46 | | 5 | 200.0 | 6.0 | 35.0 | | |
| DD1719A REPETS= 1 | 47 | | 2 | 96.0 | 25.0 | 48.0 | | |
| DD1720A REPETS= 1 | 48 | | 2 | 96.0 | 25.0 | 46.0 | | |
| DD1721A REPETS= 1 | 49 | | 2 | 95.0 | 20.0 | 42.0 | | |
| DD1727A REPETS= 1 | 50 | | 1 | 230.0 | 8.0 | 60.0 | | |
| DD1730A REPETS= 1 | 51 | | 6 | 180.0 | 4.0 | 30.0 | | |
| DD1731A REPETS= 1 | 52 | | 2 | 165.0 | 1.0 | 18.0 | | |
| DD1734A REPETS= 1 | 53 | | 2 | 165.0 | 5.0 | 25.0 | | |
| DD1735A REPETS= 1 | 54 | | 2 | 165.0 | 3.0 | 26.0 | | |
| DD1736A REPETS= 1 | 55 | | 2 | 165.0 | 3.0 | 21.0 | | |
| DD1738A REPETS= 1 | 56 | | 2 | 165.0 | 5.0 | 24.0 | | |
| DD1751A REPETS= 1 | 57 | | 1 | 175.0 | 9.0 | 42.0 | | |
| DD1760A REPETS= 1 | 58 | | 2 | 175.0 | 8.0 | 37.0 | | |
| DD1764A REPETS= 1 | 59 | | 6 | 180.0 | 9.0 | 40.0 | | |
| DD1768A REPETS= 1 | 60 | | 7 | 170.0 | 10.0 | 43.0 | | |
| DD1770A REPETS= 1 | 61 | | 7 | 250.0 | 4.0 | 42.0 | | |
| DD1782A REPETS= 1 | 62 | | 2 | 197.0 | 2.0 | 38.0 | | |
| DD1785A REPETS= 1 | 63 | | 4 | 180.0 | 3.0 | 30.0 | | |
| DD1786A REPETS= 1 | 64 | | 6 | 167.0 | 6.0 | 27.0 | | |
| DD1787A REPETS= 1 | 65 | | 6 | 169.0 | 3.0 | 27.0 | | |
| DD1793A REPETS= 1 | 66 | D | 1 | 290.0 | 4.0 | 51.0 | 81.0 | 141.0 |
| DD1793A REPETS= 1 | 67 | D | 1 | 290.0 | 4.0 | 51.0 | 171.0 | 231.0 |
| DD1793A REPETS= 1 | 68 | | 3 | 290.0 | 4.0 | 51.0 | | |
| DD1797A REPETS= 1 | 69 | | 5 | 170.0 | 11.0 | 42.0 | | |
| DD1798A REPETS= 1 | 70 | | 2 | 95.0 | 11.0 | 20.0 | | |
| DD1799A REPETS= 1 | 71 | | 2 | 95.0 | 11.0 | 20.0 | | |
| DD1802A REPETS= 1 | 72 | | 2 | 170.0 | 9.0 | 39.0 | | |
| DD1803A REPETS= 1 | 73 | | 2 | 170.0 | 8.0 | 39.0 | | |
| DD1804A REPETS= 1 | 74 | | 2 | 169.0 | 10.0 | 41.0 | | |
| DD1805A REPETS= 2 | 75 | | 2 | 170.0 | 7.0 | 32.0 | | |
| DD1806A REPETS= 1 | 76 | | 2 | 195.0 | 6.0 | 36.0 | | |
| DD1807A REPETS= 1 | 77 | | 2 | 195.0 | 8.0 | 40.0 | | |
| DD1808A REPETS= 1 | 78 | | 2 | 195.0 | 7.0 | 48.0 | | |
| DD1809A REPETS= 1 | 79 | | 2 | 195.0 | 8.0 | 40.0 | | |
| DD1814A REPETS= 1 | 80 | | 2 | 165.0 | 4.0 | 24.0 | | |
| DD1815A REPETS= 1 | 81 | | 2 | 165.0 | 9.0 | 37.0 | | |
| DD1820A REPETS= 1 | 82 | | 6 | 170.0 | 4.0 | 25.0 | | |
| DD1827A REPETS= 1 | 83 | | 5 | 178.0 | 9.0 | 42.0 | | |

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|---|---|---|---|---|---|---|---|
| DD1831A REPETS= 1 | 84 | 4 | 174.0 | 5.0 | 26.0 | | |
| DD1832A REPETS= 1 | 85 | 2 | 165.0 | 5.0 | 23.0 | | |
| DD1856A REPETS= 1 | 86 | 7 | 170.0 | 5.0 | 28.0 | | |
| DD1857A REPETS= 1 | 87 | 7 | 200.0 | 5.0 | 32.0 | | |
| DD1865A REPETS= 1 | 88 | 2 | 195.0 | 6.0 | 33.0 | | |
| DD1866A REPETS= 1 | 89 | 3 | 165.0 | 4.0 | 25.0 | | |
| DD1867A REPETS= 1 | 90 | 2 | 164.0 | 4.0 | 25.0 | | |
| DD1868A REPETS= 1 | 91 | 2 | 165.0 | 4.0 | 26.0 | | |
| DD1869A REPETS= 1 | 92 | 2 | 195.0 | 3.0 | 26.0 | | |
| DD1724A REPETS= 1 | 93 | 1 | 180.0 | 9.0 | 40.5 | | |
| DD1737A REPETS= 1 | 94 | 2 | 165.0 | 3.0 | 22.0 | | |
| DD1761A REPETS= 1 | 95 | 2 | 175.0 | 5.0 | 40.0 | | |
| DR0094A REPETS= 1 | 96 | 1 | 66.0 | 26.6 | 39.1 | | |
| DR0097A REPETS= 1 | 97 | 1 | 66.0 | 16.3 | 22.6 | | |
| DR0098A REPETS= 1 | 98 | 1 | 66.0 | 26.7 | 38.7 | | |
| DR0099A REPETS= 1 | 99 | 1 | 66.0 | 15.5 | 24.0 | | |
| DR0100A REPETS= 1 | 100 | 1 | 66.0 | 27.2 | 39.0 | | |
| DR0101A REPETS= 1 | 101 | 1 | 66.0 | 17.2 | 23.1 | | |
| DR0102A REPETS= 1 | 102 | 1 | 165.0 | 16.5 | 74.9 | | |
| DR0103A REPETS= 1 | 103 | 1 | 165.0 | 16.9 | 77.2 | | |
| DR0104A REPETS= 1 | 104 | 1 | 132.0 | 17.5 | 55.9 | | |
| DR0106A REPETS= 1 | 105 | 2 | 140.0 | 6.3 | 18.3 | | |
| DR0107A REPETS= 1 | 106 | 1 | 132.0 | 17.5 | 55.9 | | |
| DR0108A REPETS= 1 | 107 | 1 | 132.0 | 16.6 | 55.5 | | |
| DR0109A REPETS= 1 | 108 | 2 | 165.0 | 16.4 | 74.7 | | |
| DR0110A REPETS= 1 | 109 | 1 | 165.0 | 16.0 | 74.3 | | |
| DR0141A REPETS= 1 | 110 | 2 | 98.0 | 1.8 | 13.1 | | |
| DR0145A REPETS= 1 | 111 | 10 | 164.0 | 5.0 | 29.3 | | |
| DR0147A REPETS= 1 | 112 | 8 | 110.0 | 12.7 | 27.1 | | |
| DR0201A REPETS= 1 | 113 | 2 | 118.0 | 22.9 | 45.9 | | |
| DR0202A REPETS= 1 | 114 | 2 | 148.0 | 17.5 | 44.9 | | |
| DR0203A REPETS= 1 | 115 | 4 | 59.0 | 79.0 | 91.1 | | |
| DR0204A REPETS= 1 | 116 | 1 | 89.0 | 38.1 | 57.1 | | |
| DR0205A REPETS= 1 | 117 | 2 | 118.0 | 22.9 | 44.2 | | |
| DR0206A REPETS= 1 | 118 | 3 | 148.0 | 17.9 | 44.6 | | |
| DR0207A REPETS= 1 | 119 | 1 | 177.0 | 10.8 | 40.1 | | |
| DR0208A REPETS= 1 | 120 D | 1 | 118.0 | 47.6 | 119.6 | 70.6 | 119.6 |
| DR0208A REPETS= 1 | 121 | 2 | 118.0 | 47.6 | 119.6 | | |
| DR0209A REPETS= 1 | 122 | 2 | 148.0 | 27.5 | 87.7 | | |
| DR0210A REPETS= 1 | 123 | 3 | 170.0 | 22.0 | 91.5 | | |
| DR0211A REPETS= 1 | 124 | 3 | 119.0 | 48.0 | 121.0 | | |
| DR0213A REPETS= 1 | 125 | 5 | 148.0 | 28.0 | 89.0 | | |
| DR0214A REPETS= 1 | 126 D | 1 | 177.0 | 18.0 | 73.0 | 193.0 | 510.0 |

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|---|---|---|---|---|---|---|---|
| DR0214A REPETS= 1 | 127 | 2 | 177.0 | 18.0 | 73.0 | | |
| DR0280A REPETS= 1 | 128 | 7 | 177.0 | 27.1 | 119.5 | | |
| DR0284A REPETS= 1 | 129 | 8 | 177.0 | 26.6 | 116.2 | | |
| DR0302A REPETS= 1 | 130 | 2 | 49.0 | 99.0 | 106.0 | | |
| DR0303A REPETS= 1 | 131 | 2 | 89.0 | 58.4 | 102.5 | | |
| DR0307A REPETS= 1 | 132 | 1 | 89.0 | 58.3 | 101.5 | | |
| DR0340A REPETS= 1 | 133 D | 1 | 148.0 | 36.7 | 124.6 | 225.0 | 424.0 |
| DR0340A REPETS= 1 | 134 D | 1 | 148.0 | 36.7 | 124.6 | 154.6 | 294.0 |
| DR0340A REPETS= 1 | 135 D | 1 | 148.0 | 36.7 | 124.6 | 71.3 | 124.6 |
| DR0340A REPETS= 1 | 136 | 6 | 148.0 | 36.7 | 124.6 | | |
| DR0352A REPETS= 1 | 137 | 1 | 108.0 | 7.8 | 13.3 | | |
| DR0364A REPETS= 1 | 138 D | 1 | 118.0 | 48.1 | 118.3 | 70.2 | 1200.0 |
| DR0364A REPETS= 1 | 139 | 7 | 118.0 | 48.1 | 118.3 | | |
| DR0366A REPETS= 1 | 140 | 12 | 79.0 | 28.4 | 36.0 | | |
| DR0367A REPETS= 1 | 141 | 11 | 108.0 | 12.9 | 21.1 | | |
| DR0368A REPETS= 1 | 142 | 9 | 148.0 | 36.2 | 121.4 | | |
| DR0375A REPETS= 1 | 143 | 1 | 148.0 | 11.3 | 32.5 | | |
| DR0432A REPETS= 1 | 144 | 4 | 180.0 | 5.5 | 26.9 | | |
| DR0433A REPETS= 1 | 145 | 4 | 155.0 | 2.1 | 37.0 | | |
| DR0453A REPETS= 1 | 146 | 1 | 180.0 | 3.0 | 24.1 | | |
| DR0454A REPETS= 1 | 147 | 5 | 180.0 | 4.2 | 27.2 | | |
| DR0502A REPETS= 1 | 148 | 2 | 177.0 | 5.0 | 22.9 | | |
| DR0525A REPETS= 1 | 149 | 2 | 120.0 | 13.8 | 31.5 | | |
| DR0529A REPETS= 1 | 150 | 2 | 100.0 | 6.3 | 10.7 | | |
| DD1876A REPETS= 1 | 151 | 2 | 110.0 | 7.0 | 16.7 | | |
| DD1877A REPETS= 1 | 152 | 1 | 95.0 | 27.7 | 40.4 | | |
| DD1878A REPETS= 1 | 153 | 1 | 95.0 | 26.2 | 40.1 | | |
| DD1883A REPETS= 1 | 154 | 1 | 147.0 | 5.0 | 11.0 | | |
| DD1884A REPETS= 1 | 155 | 1 | 54.0 | 37.5 | 41.2 | | |
| DD1892A REPETS= 1 | 156 | 1 | 148.0 | 9.6 | 14.5 | | |
| DD1893A REPETS= 1 | 157 | 1 | 95.0 | 10.2 | 22.5 | | |
| DD1894A REPETS= 1 | 158 | 1 | 197.0 | 5.0 | 29.3 | | |
| DD1895A REPETS= 1 | 159 | 1 | 196.0 | 5.1 | 30.5 | | |
| DD1896A REPETS= 1 | 160 | 1 | 198.0 | 4.7 | 11.5 | | |
| DD1899A REPETS= 1 | 161 | 1 | 228.0 | 1.1 | 8.9 | | |
| DD1900A REPETS= 1 | 162 | 1 | 228.0 | 4.0 | 10.0 | | |
| DD1901A REPETS= 1 | 163 | 1 | 228.0 | 2.1 | 9.8 | | |
| DD1902A REPETS= 1 | 164 | 4 | 98.0 | 12.4 | 15.7 | | |
| DD1903A REPETS= 1 | 165 | 8 | 194.0 | 4.7 | 11.4 | | |
| DD1904A REPETS= 1 | 166 | 5 | 195.0 | 5.7 | 12.4 | | |
| DD1905A REPETS= 1 | 167 | 4 | 98.0 | 19.3 | 22.7 | | |
| DD1906A REPETS= 1 | 168 | 4 | 97.0 | 19.3 | 22.7 | | |
| DD1907A REPETS= 1 | 169 | 4 | 97.0 | 26.4 | 29.7 | | |

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|---|---|---|---|---|---|---|---|
| DD1908A REPETS= 1 | 170 | 4 | 97.0 | 26.3 | 29.7 | | |
| DD1909A REPETS= 1 | 171 | 4 | 146.0 | 8.9 | 13.8 | | |
| DD1910A REPETS= 1 | 172 | 4 | 147.0 | 8.8 | 13.9 | | |
| DD1911A REPETS= 1 | 173 | 4 | 147.0 | 13.1 | 18.0 | | |
| DD1912A REPETS= 1 | 174 | 4 | 147.0 | 13.0 | 18.1 | | |
| DD1913A REPETS= 1 | 175 | 4 | 197.0 | 6.7 | 13.5 | | |
| DD1914A REPETS= 1 | 176 | 4 | 197.0 | 6.7 | 13.4 | | |
| DD1915A REPETS= 1 | 177 | 4 | 65.0 | 38.9 | 41.1 | | |
| DD1916A REPETS= 1 | 178 | 4 | 54.0 | 59.1 | 61.0 | | |
| DD1917A REPETS= 1 | 179 | 4 | 77.0 | 38.7 | 41.3 | | |
| DD1918A REPETS= 1 | 180 | 4 | 62.0 | 58.9 | 61.1 | | |
| DD1919A REPETS= 1 | 181 | 4 | 61.0 | 59.0 | 61.1 | | |
| DD1920A REPETS= 1 | 182 | 4 | 229.0 | 3.7 | 11.6 | | |
| DD1921A REPETS= 1 | 183 | 4 | 229.0 | 3.6 | 11.5 | | |
| DD1922A REPETS= 1 | 184 | 4 | 229.0 | 3.6 | 11.6 | | |
| DD1923A REPETS= 1 | 185 | 4 | 262.0 | 1.1 | 10.1 | | |
| DD1924A REPETS= 1 | 186 | 4 | 262.0 | 1.1 | 10.1 | | |
| DD1926A REPETS= 1 | 187 | 2 | 147.0 | 13.6 | 18.5 | | |
| DD1927A REPETS= 1 | 188 | 6 | 180.0 | 5.0 | 26.0 | | |
| DD1928A REPETS= 1 | 189 | 2 | 147.0 | 13.6 | 18.4 | | |
| DD1929A REPETS= 1 | 190 | 2 | 146.0 | 13.0 | 18.0 | | |
| DD1930A REPETS= 1 | 191 D | 1 | 146.0 | 13.0 | 18.0 | 28.0 | 63.0 |
| DD1930A REPETS= 1 | 192 | 1 | 146.0 | 13.0 | 18.0 | | |
| DD1932A REPETS= 1 | 193 | 2 | 147.0 | 11.8 | 16.7 | | |
| DD1933A REPETS= 1 | 194 | 2 | 195.0 | 5.8 | 12.3 | | |
| DD1935A REPETS= 1 | 195 | 2 | 195.0 | 5.7 | 12.5 | | |
| DD1936A REPETS= 1 | 196 | 2 | 228.0 | 2.8 | 10.7 | | |
| DD1967A REPETS= 1 | 197 | 2 | 176.0 | 4.3 | 35.0 | | |
| DD1993A REPETS= 1 | 198 | 5 | 170.0 | 5.9 | 27.0 | | |
| DD1994A REPETS= 1 | 199 | 4 | 170.0 | 7.3 | 29.0 | | |
| DD1999A REPETS= 1 | 200 | 3 | 175.0 | 10.1 | 47.9 | | |
| DD2000A REPETS= 1 | 201 D | 2 | 165.0 | 6.1 | 28.0 | 38.0 | 88.0 |
| DD2000A REPETS= 1 | 202 | 1 | 165.0 | 6.1 | 28.0 | | |
| DD2014A REPETS= 1 | 203 | 2 | 96.0 | 14.3 | 28.2 | | |
| DD2015A REPETS= 1 | 204 | 2 | 96.0 | 15.1 | 28.4 | | |
| DD2094A REPETS= 1 | 205 | 1 | 180.0 | 5.5 | 24.5 | | |
| DD2095A REPETS= 1 | 206 | 2 | 180.0 | 5.5 | 24.9 | | |
| DD2096A REPETS= 1 | 207 | 6 | 165.0 | 4.2 | 20.8 | | |
| DD2101A REPETS= 1 | 208 | 5 | 100.0 | 18.3 | 32.7 | | |
| DD2102A REPETS= 1 | 209 | 3 | 100.0 | 17.5 | 32.5 | | |
| DD2172A REPETS= 1 | 210 | 1 | 119.0 | 6.8 | 11.3 | | |
| DD2173A REPETS= 1 | 211 | 1 | 119.0 | 6.7 | 11.1 | | |
| DD2174A REPETS= 1 | 212 | 3 | 119.0 | 6.9 | 11.1 | | |

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|---|---|---|---|---|---|
| DD2177A REPETS= 1 | 213 | 2 | 119.0 | 6.9 | 11.2 |
| DD2179A REPETS= 1 | 214 | 1 | 119.0 | 6.9 | 11.4 |
| DD2180B REPETS= 1 | 215 | 2 | 119.0 | 6.7 | 11.2 |
| DD2182B REPETS= 1 | 216 | 1 | 120.0 | 6.8 | 11.2 |
| DD2183B REPETS= 1 | 217 | 1 | 119.0 | 6.9 | 11.4 |
| DD2184B REPETS= 1 | 218 | 1 | 119.0 | 6.7 | 11.2 |
| DD2185B REPETS= 1 | 219 | 1 | 120.0 | 6.9 | 11.1 |
| DD2200B REPETS= 1 | 220 | 1 | 120.0 | 6.9 | 11.3 |
| DD2201B REPETS= 1 | 221 | 1 | 120.0 | 7.0 | 11.2 |
| DD2203B REPETS= 1 | 222 | 1 | 121.0 | 6.9 | 11.1 |
| DD2204B REPETS= 1 | 223 | 2 | 120.0 | 7.0 | 11.1 |
| DD2283A REPETS= 1 | 224 | 1 | 95.0 | 11.0 | 20.0 |
| DD2284A REPETS= 1 | 225 | 6 | 70.0 | 33.5 | 36.4 |
| DD2285A REPETS= 1 | 226 | 6 | 83.0 | 21.3 | 26.4 |
| DD2286A REPETS= 1 | 227 | 6 | 90.0 | 18.4 | 21.8 |
| DD2287A REPETS= 1 | 228 | 6 | 60.0 | 48.7 | 51.1 |
| DD2288A REPETS= 2 | 229 | 6 | 100.0 | 11.2 | 16.9 |
| DD2289A REPETS= 1 | 230 | 6 | 110.0 | 9.8 | 14.2 |
| DD2290A REPETS= 1 | 231 | 4 | 50.0 | 74.1 | 76.0 |
| DD2291A REPETS= 1 | 232 | 6 | 120.0 | 7.8 | 12.1 |
| DD2292A REPETS= 1 | 233 | 5 | 130.0 | 5.7 | 10.3 |
| DD2293A REPETS= 1 | 234 | 4 | 71.0 | 33.7 | 36.3 |
| DD2294A REPETS= 1 | 235 | 5 | 80.0 | 23.6 | 26.6 |
| DD2295A REPETS= 1 | 236 | 5 | 90.0 | 18.5 | 21.7 |
| DD2296A REPETS= 1 | 237 | 5 | 60.0 | 48.8 | 51.3 |
| DD2297A REPETS= 1 | 238 | 5 | 100.0 | 12.9 | 16.9 |
| DD2298A REPETS= 1 | 239 | 5 | 120.0 | 7.9 | 12.2 |
| DD2299A REPETS= 1 | 240 | 4 | 50.0 | 74.1 | 76.0 |
| DD2300A REPETS= 1 | 241 | 6 | 110.0 | 10.1 | 14.1 |
| DD2301A REPETS= 1 | 242 | 4 | 130.0 | 5.7 | 10.4 |
| DD2302A REPETS= 1 | 243 | 6 | 140.0 | 4.6 | 9.5 |
| DD2303A REPETS= 1 | 244 | 6 | 140.0 | 4.5 | 9.5 |
| DD2304A REPETS= 1 | 245 | 5 | 140.0 | 4.5 | 9.7 |
| DD2308A REPETS= 1 | 246 | 7 | 165.0 | 7.9 | 35.2 |
| DD2309A REPETS= 1 | 247 | 7 | 165.0 | 8.4 | 35.3 |
| DD2310A REPETS= 1 | 248 | 6 | 148.0 | 4.4 | 9.6 |
| DD2311A REPETS= 1 | 249 | 6 | 158.0 | 3.2 | 8.6 |
| DD2314A REPETS= 1 | 250 | 4 | 168.0 | 2.2 | 8.1 |
| DD2315A REPETS= 1 | 251 | 5 | 178.0 | 1.4 | 8.2 |
| DD2440A REPETS= 1 | 252 | 5 | 130.0 | 5.3 | 10.3 |
| DD2002A REPETS= 1 | 253 | 2 | 164.0 | 6.7 | 28.0 |
| DD2002A REPETS= 1 | 254 M | 1 | 164.0 | 6.7 | 28.0 |

| SUBX87 | | | | | |
|---|---|---|---|---|---|
| 15xax1w.dat | 1 | 1 | 80.7 | 0.1 | 0.7 |
| 15xax2s.dat | 2 | 1 | 80.7 | 0.0 | 0.6 |
| 15xax5y.dat | 3 | 1 | 85.6 | 0.1 | 0.7 |
| 15xax8x.dat | 4 | 1 | 83.2 | 0.1 | 0.8 |
| 15xb10v.dat | 5 | 1 | 105.3 | 0.1 | 0.8 |
| 15xb14s.dat | 6 | 1 | 107.8 | 0.1 | 0.8 |
| 15xbx1u.dat | 7 | 1 | 105.3 | 0.1 | 0.9 |
| 15xbx2r.dat | 8 | 1 | 102.9 | 0.0 | 1.4 |
| 15xbx3z.dat | 9 | 1 | 105.3 | 0.1 | 1.0 |
| 15xbx4w.dat | 10 | 1 | 105.3 | 0.1 | 1.5 |
| 15xbx8x.dat | 11 | 1 | 107.8 | 0.1 | 1.2 |
| 15xbx9y.dat | 12 | 1 | 97.9 | 0.1 | 0.8 |
| 16xax2z.dat | 13 | 1 | 304.6 | 0.1 | 1.0 |
| 16xax4v.dat | 14 | 1 | 302.2 | 0.2 | 1.2 |
| 16xax5r.dat | 15 | 1 | 302.2 | 0.0 | 1.5 |
| 16xax6x.dat | 16 | 1 | 302.2 | 0.1 | 1.6 |
| 16xax8y.dat | 17 | 1 | 307.1 | 0.1 | 1.1 |
| 16xax9t.dat | 18 | 1 | 294.8 | 0.0 | 1.7 |
| 16xaxdw.dat | 19 | 1 | 307.1 | 0.0 | 1.2 |
| 16xbx1v.dat | 20 | 1 | 297.2 | 0.0 | 1.2 |
| 16xbx2z.dat | 21 | 1 | 297.2 | 0.1 | 1.3 |
| 16xbx3w.dat | 22 | 1 | 302.2 | 0.0 | 1.6 |
| 16xbx4t.dat | 23 | 1 | 292.3 | 0.1 | 1.2 |
| 16xbx8y.dat | 24 | 1 | 307.1 | 0.0 | 1.4 |
| 16xbxau.dat | 25 | 1 | 299.7 | 0.1 | 1.4 |
| 16xbxcx.dat | 26 | 1 | 292.3 | 0.1 | 1.3 |
| 16xbxdr.dat | 27 | 1 | 302.2 | 0.1 | 1.5 |
| 18xax1v.dat | 28 | 1 | 410.4 | 0.1 | 1.7 |
| 18xax2z.dat | 29 | 1 | 376.0 | 0.1 | 1.6 |
| 18xax3w.dat | 30 | 1 | 395.7 | 0.0 | 1.5 |
| 18xax5t.dat | 31 | 1 | 393.2 | 0.0 | 1.6 |
| 18xax9u.dat | 32 | 1 | 393.2 | 0.1 | 1.6 |
| 18xaxax.dat | 33 | 1 | 393.2 | 0.1 | 1.6 |
| 18xaxby.dat | 34 | 1 | 400.6 | 0.1 | 1.5 |
| 18xbx1v.dat | 35 | 1 | 388.3 | 0.0 | 1.3 |
| 18xbx4y.dat | 36 | 1 | 380.9 | 0.0 | 1.5 |
| 18xbx7t.dat | 37 | 1 | 398.1 | 0.1 | 1.6 |
| 18xbx8u.dat | 38 | 1 | 400.6 | 0.1 | 1.9 |
| 18xbxax.dat | 39 | 1 | 403.1 | 0.1 | 1.6 |
| 18xbxbw.dat | 40 | 1 | 383.4 | 0.1 | 1.4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 18xbxcr.dat | 41 | 1 | 395.7 | 0.1 | 1.5 | | |
| 20xax1z.dat | 42 | 1 | 464.6 | 0.1 | 1.9 | | |
| 20xax2x.dat | 43 | 1 | 499.0 | 0.0 | 1.9 | | |
| 20xax3v.dat | 44 | 1 | 511.3 | 0.1 | 2.0 | | |
| 20xax5s.dat | 45 | 1 | 459.6 | 0.0 | 2.2 | | |
| 20xax6r.dat | 46 | 1 | 481.8 | 0.0 | 1.5 | | |
| 20xax8u.dat | 47 | 1 | 489.2 | 0.0 | 7.1 | | |
| 20xbx1w.dat | 48 | 1 | 484.3 | 0.1 | 2.0 | | |
| 20xbx2v.dat | 49 D | 1 | 506.4 | 0.1 | 1.5 | 0.5 | 4.5 |
| 20xbx3x.dat | 50 | 1 | 503.9 | 0.3 | 1.8 | | |
| 20xbx5z.dat | 51 | 1 | 499.0 | 0.1 | 1.6 | | |
| 20xbx7v.dat(cx1v) | 52 | 1 | 484.3 | 0.0 | 1.9 | | |
| 20xbx8x.dat(cx2x) | 53 | 1 | 501.5 | 0.1 | 2.1 | | |
| 20xbx9z.dat(cx3z) | 54 | 1 | 481.8 | 0.3 | 1.7 | | |
| 20xbxaw.dat(cx4w) | 55 | 1 | 491.6 | 0.1 | 2.1 | | |
| 20xbxbu.dat(cx5u) | 56 | 1 | 494.1 | 0.0 | 2.2 | | |
| 22xax1u.dat | 57 D | 1 | 580.2 | 0.1 | 2.0 | 0.8 | 12.0 |
| 22xax2x.dat | 58 | 1 | 602.4 | 0.0 | 2.0 | | |

NMRNSW

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| NSW1c01 | 1 | 3 | 61.5 | 79.7 | 87.2 | | |
| NSW1C02 | 2 | 3 | 61.5 | 79.5 | 88.9 | | |
| NSW1C03 | 3 | 2 | 61.5 | 79.0 | 85.9 | | |
| NSW1C03 | 4 M | 1 | 61.5 | 79.0 | 85.9 | 206.0 | 266.0 |
| NSW1C04 | 5 | 1 | 61.5 | 89.4 | 111.1 | | |
| NSW1C05 | 6 | 3 | 61.5 | 90.1 | 97.3 | | |
| NSW1C06 | 7 | 2 | 61.5 | 90.0 | 97.5 | | |
| NSW1C06 | 8 D | 1 | 61.5 | 90.0 | 97.5 | 127.5 | 217.5 |
| NSW1C07 | 9 | 2 | 61.5 | 90.1 | 97.3 | | |
| NSW1C08 | 10 | 3 | 61.5 | 90.1 | 97.1 | | |
| NSW1C09 | 11 | 2 | 61.5 | 90.1 | 97.2 | | |
| NSW1C10 | 12 | 2 | 61.5 | 90.1 | 96.1 | | |
| NSW1C11 | 13 | 2 | 61.5 | 90.2 | 97.8 | | |
| NSW1C12 | 14 | 2 | 61.5 | 100.1 | 106.7 | | |
| NSW1C12 | 15 M | 1 | 61.5 | 90.8 | 106.7 | 227.0 | 297.0 |
| NSW1C13 | 16 | 1 | 61.5 | 100.1 | 107.9 | | |
| NSW1C13 | 17 M | 1 | 61.5 | 100.1 | 107.9 | 117.9 | 137.9 |
| NSW1C14 | 18 | 2 | 61.5 | 99.0 | 111.5 | | |
| NSW1C14 | 19 D | 1 | 61.5 | 99.0 | 111.5 | 141.5 | 204.5 |
| NSW1C15 | 20 | 2 | 61.5 | 100.0 | 108.6 | | |
| nsw1c16 | 21 | 1 | 61.5 | 100.1 | 106.7 | | |
| nsw1c16 | 22 M | 1 | 61.5 | 100.1 | 106.7 | | |
| nsw1c16 | 23 D | 1 | 61.5 | 100.1 | 106.7 | 226.7 | 467.0 |
| NSW1C17 | 24 | 2 | 61.5 | 90.2 | 97.7 | | |
| NSW1C17 | 25 D | 1 | 61.5 | 90.2 | 97.7 | 217.7 | 608.0 |
| nsw1c18 | 26 | 3 | 61.5 | 80.1 | 89.3 | | |
| NSW1C19 | 27 | 1 | 61.5 | 79.7 | 86.1 | | |
| NSW1C19 | 28 D | 1 | 61.5 | 79.7 | 86.1 | 96.1 | 121.1 |
| NSW1E01 | 29 | 3 | 61.5 | 240.1 | 254.5 | | |
| NSW1E02 | 30 | 3 | 61.5 | 240.0 | 249.2 | | |
| NSW1E03 | 31 | 3 | 61.5 | 240.0 | 248.2 | | |
| NSW1E04 | 32 | 3 | 61.5 | 300.0 | 310.0 | | |
| NSW1E05 | 33 | 2 | 61.5 | 300.0 | 309.2 | | |
| NSW1E06 | 34 | 2 | 61.5 | 299.0 | 310.7 | | |
| NSW1E07 | 35 | 1 | 61.5 | 300.2 | 308.3 | | |
| NSW1E07 | 36 M | 1 | 61.5 | 300.2 | 308.3 | | |
| NSW1E08 | 37 | 3 | 61.5 | 360.1 | 369.0 | | |
| NSW1E09 | 38 | 3 | 61.5 | 360.1 | 370.4 | | |
| NSWE10 | 39 | 3 | 61.5 | 360.1 | 367.1 | | |
| NSWE11 | 40 | 2 | 61.5 | 360.0 | 370.6 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| NSWE12 | 41 | 3 | 61.5 | 360.2 | 374.0 | | |
| NSW1E13 | 42 | 3 | 61.5 | 360.1 | 367.9 | | |
| NSW1E14 | 43 | 3 | 61.5 | 360.0 | 368.6 | | |
| NSWF01 | 44 | 3 | 61.5 | 360.9 | 438.3 | | |
| NSW1F02 | 45 | 2 | 61.5 | 360.7 | 440.3 | | |

EDU885AR

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|---|---|---|---|---|---|---|---|
| AN2009.OUT REPETS= 2 | 1 | 7 | 150.0 | 60.4 | 469.4 | | |
| AN2010.OUT REPETS= 2 | 2 D | 1 | 100.0 | 105.7 | 301.4 | 301.1 | 334.1 |
| AN2010.OUT REPETS= 3 | 3 D | 1 | 100.0 | 105.7 | 471.9 | 205.0 | 481.9 |
| AN2010.OUT REPETS= 3 | 4 D | 1 | 100.0 | 105.7 | 471.9 | 592.0 | 892.0 |
| AN2010.OUT REPETS= 3 | 5 | 6 | 100.0 | 105.7 | 471.9 | | |
| AN2011.OUT REPETS= 2 | 6 D | 1 | 150.0 | 61.2 | 459.2 | 458.9 | 464.2 |
| AN2011.OUT REPETS= 2 | 7 D | 1 | 150.0 | 61.2 | 459.2 | 579.2 | 1719.0 |
| AN2011.OUT REPETS= 2 | 8 | 7 | 150.0 | 61.2 | 459.2 | | |
| AN2012.OUT REPETS= 3 | 9 | 7 | 100.0 | 102.6 | 518.5 | | |
| AN2017.OUT REPETS= 2 | 10 D | 1 | 100.0 | 43.9 | 123.8 | 243.8 | 334.0 |
| AN2017.OUT REPETS= 2 | 11 | 8 | 100.0 | 43.9 | 123.8 | | |
| AN2019.OUT REPETS= 2 | 12 | 7 | 100.0 | 40.9 | 123.6 | | |
| AN2021.OUT REPETS= 2 | 13 | 10 | 100.0 | 42.2 | 123.4 | | |
| AN2022.OUT REPETS= 2 | 14 | 6 | 100.0 | 42.1 | 121.3 | | |
| AN3001.OUT REPETS= 2 | 15 D | 1 | 80.0 | 76.3 | 282.9 | 280.7 | 292.9 |
| AN3001.OUT REPETS= 2 | 16 | 9 | 80.0 | 76.3 | 282.9 | | |
| AN3002.OUT REPETS= 2 | 17 | 10 | 80.0 | 75.9 | 270.5 | | |
| AN3003.OUT REPETS= 2 | 18 D | 1 | 80.0 | 67.0 | 175.4 | 173.3 | 188.4 |
| AN3003.OUT REPETS= 2 | 19 | 9 | 80.0 | 67.0 | 175.4 | | |
| AN3004.OUT REPETS= 3 | 20 D | 1 | 100.0 | 53.8 | 198.1 | 195.4 | 318.0 |
| AN3004.OUT REPETS= 3 | 21 D | 1 | 100.0 | 53.8 | 198.1 | 318.0 | 438.0 |
| AN3004.OUT REPETS= 3 | 22 | 8 | 100.0 | 53.8 | 198.1 | | |
| AN3005.OUT REPETS= 4 | 23 | 9 | 100.0 | 50.8 | 201.6 | | |
| AN3006.OUT REPETS= 2 | 24 | 10 | 80.0 | 58.6 | 132.1 | | |
| AN3007.OUT REPETS= 2 | 25 D | 1 | 78.0 | 66.6 | 175.8 | 206.0 | 266.0 |
| AN3007.OUT REPETS= 2 | 26 | 9 | 78.0 | 66.6 | 175.8 | | |
| AN3008.OUT REPETS= 2 | 27 | 9 | 80.0 | 72.1 | 267.7 | | |
| AN3009.OUT REPETS= 2 | 28 | 10 | 80.0 | 58.9 | 132.5 | | |
| AN3011.OUT REPETS= 2 | 29 | 10 | 120.0 | 29.5 | 113.9 | | |
| AN3013.OUT REPETS= 2 | 30 | 10 | 150.0 | 18.5 | 108.5 | | |
| AN3015.OUT REPETS= 2 | 31 | 10 | 120.0 | 29.4 | 111.2 | | |

DC4WR

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DR0276A REPETS=2 | 1 | 2 | 118.1 | 55.2 | 265.4 | | |
| DR0278A REPETS=2 | 2 | 1 | 147.6 | 40.0 | 282.2 | | |
| DR0278A REPETS=2 | 3 D | 1 | 147.6 | 40.0 | 282.2 | 229.1 | 292.2 |
| DR0280A REPETS=2 | 4 | 2 | 177.2 | 27.1 | 333.9 | | |
| DR0272R REPETS=2 | 5 | 1 | 118.1 | 54.6 | 268.2 | | |
| DR0272R REPETS=2 | 6 D | 1 | 118.1 | 54.6 | 268.2 | 388.0 | 868.0 |
| DR0274R REPETS=2 | 7 | 2 | 147.6 | 44.9 | 293.8 | | |
| DR0285R REPETS=2 | 8 | 1 | 177.2 | 26.6 | 330.6 | | |
| DR0285R REPETS=2 | 9 D | 1 | 177.2 | 26.6 | 330.6 | 329.5 | 345.6 |

DC4DR

| | | | | | |
|---|---|---|---|---|---|
| DD2409R REPETS=2 | 1 | 5 | 60.0 | 63.6 | 126.7 |
| DD2411R REPETS=2 | 2 | 4 | 60.0 | 63.6 | 127.7 |
| DD2413R REPETS=2 | 3 | 5 | 110.0 | 16.9 | 54.3 |
| DD2415R REPETS=2 | 4 | 3 | 110.0 | 16.9 | 54.6 |
| DD2417R REPETS=2 | 5 | 4 | 130.0 | 9.9 | 78.7 |
| DD2419R REPETS=2 | 6 | 4 | 130.0 | 10.0 | 78.8 |
| DD2421R REPETS=2 | 7 | 4 | 120.0 | 7.9 | 111.4 |
| DD2423R REPETS=2 | 8 | 4 | 120.0 | 7.8 | 111.5 |
| DD2425R REPETS=2 | 9 | 5 | 60.0 | 81.3 | 175.3 |
| DD2427R REPETS=2 | 10 | 5 | 90.0 | 10.4 | 148.6 |
| DD2429R REPETS=2 | 11 | 3 | 90.0 | 10.3 | 149.3 |
| DD2432R REPETS=2 | 12 | 4 | 60.0 | 63.3 | 127.7 |
| DD2434R REPETS=2 | 13 | 5 | 60.0 | 63.5 | 127.6 |
| DD2436R REPETS=2 | 14 | 5 | 110.0 | 16.5 | 54.4 |
| DD2439R REPETS=2 | 15 | 6 | 60.0 | 80.8 | 175.1 |
| DD2442R REPETS=2 | 16 | 4 | 130.0 | 10.0 | 78.6 |
| DD2444R REPETS=2 | 17 | 6 | 120.0 | 7.7 | 110.4 |
| DD2446R REPETS=2 | 18 | 4 | 90.0 | 10.1 | 149.4 |
| DD2448R REPETS=2 | 19 | 4 | 90.0 | 10.1 | 149.3 |
| DD2450R REPETS=2 | 20 | 5 | 60.0 | 81.3 | 175.6 |
| DD2452R REPETS=2 | 21 | 4 | 60.0 | 80.8 | 175.3 |
| DR0276A REPETS=2 | 22 | 8 | 118.1 | 55.2 | 265.4 |
| DR0278A REPETS=2 | 23 | 7 | 147.6 | 40.0 | 282.2 |
| DR0280A REPETS=2 | 24 | 8 | 177.2 | 27.1 | 333.9 |
| DR0272R REPETS=2 | 25 | 8 | 118.1 | 54.6 | 268.2 |
| DR0274R REPETS=2 | 26 | 8 | 147.6 | 44.9 | 293.8 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DR0274R REPETS=2 | 27 D | 1 | 147.6 | 44.9 | 293.8 | 235.3 | 292.7 |
| DR0285R REPETS=2 | 28 | 9 | 177.2 | 26.6 | 330.6 | | |

NMR8697

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DRA4:[WEATHERSBY.DLE]8301 | 1 | | 2 | 66.0 | 28.5 | 31.4 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 2 | | 4 | 67.0 | 29.0 | 31.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 3 | | 4 | 67.0 | 28.8 | 31.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 4 | | 2 | 67.0 | 28.1 | 31.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 5 | | 6 | 71.0 | 28.9 | 31.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 6 | D | 1 | 71.0 | 28.9 | 31.5 | 151.5 | 271.5 |
| DRA4:[WEATHERSBY.DLE]8301 | 7 | M | 1 | 71.0 | 28.9 | 31.5 | 91.5 | 151.5 |
| DRA4:[WEATHERSBY.DLE]8301 | 8 | | 4 | 71.0 | 28.8 | 31.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 9 | M | 1 | 71.0 | 28.7 | 31.5 | 151.5 | 391.5 |
| DRA4:[WEATHERSBY.DLE]8301 | 10 | | 3 | 71.0 | 28.7 | 31.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 11 | | 1 | 71.0 | 28.6 | 31.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 12 | | 2 | 71.0 | 28.2 | 31.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 13 | | 2 | 71.0 | 28.0 | 31.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 14 | | 1 | 75.0 | 28.7 | 31.6 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 15 | M | 1 | 75.0 | 28.6 | 31.6 | 36.6 | 91.6 |
| DRA4:[WEATHERSBY.DLE]8301 | 16 | | 3 | 75.0 | 28.6 | 31.6 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 17 | | 2 | 75.0 | 28.5 | 31.6 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 18 | | 2 | 75.0 | 28.4 | 31.6 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 19 | | 5 | 79.0 | 28.7 | 31.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 20 | | 1 | 79.0 | 28.6 | 31.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 21 | | 2 | 79.0 | 28.3 | 31.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 22 | | 2 | 79.0 | 28.2 | 31.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 23 | | 1 | 83.0 | 29.1 | 31.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 24 | | 2 | 83.0 | 29.0 | 31.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 25 | | 4 | 83.0 | 28.4 | 31.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 26 | | 2 | 83.0 | 28.3 | 31.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 27 | | 2 | 83.0 | 28.2 | 31.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 28 | | 3 | 87.0 | 28.4 | 31.8 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 29 | | 2 | 87.0 | 28.3 | 31.8 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 30 | | 5 | 87.0 | 28.0 | 31.8 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 31 | | 2 | 91.0 | 28.5 | 31.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 32 | | 1 | 91.0 | 28.3 | 31.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 33 | | 2 | 95.0 | 28.7 | 31.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 34 | | 2 | 95.0 | 28.6 | 31.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 35 | | 2 | 95.0 | 28.5 | 31.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 36 | | 2 | 95.0 | 28.0 | 31.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 37 | | 2 | 95.0 | 27.9 | 31.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 38 | | 2 | 100.0 | 28.5 | 32.0 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 39 | | 2 | 100.0 | 28.4 | 32.0 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 40 | | 2 | 100.0 | 28.3 | 32.0 | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DRA4:[WEATHERSBY.DLE]8301 | 41 | | 4 | 100.0 | 28.1 | 32.0 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 42 | | 2 | 105.0 | 28.4 | 32.1 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 43 | | 4 | 105.0 | 28.3 | 32.1 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 44 | M | 1 | 105.0 | 28.2 | 32.1 | 92.1 | 152.1 |
| DRA4:[WEATHERSBY.DLE]8301 | 45 | | 3 | 105.0 | 28.2 | 32.1 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 46 | | 4 | 110.0 | 28.3 | 32.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 47 | | 4 | 110.0 | 28.0 | 32.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 48 | | 2 | 110.0 | 27.9 | 32.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 49 | | 2 | 115.0 | 28.1 | 32.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 50 | | 2 | 115.0 | 27.9 | 32.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 51 | | 2 | 115.0 | 27.8 | 32.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 52 | | 4 | 115.0 | 27.7 | 32.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 53 | | 2 | 120.0 | 28.8 | 32.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 54 | | 2 | 120.0 | 28.3 | 32.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 55 | | 4 | 120.0 | 27.9 | 32.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 56 | | 2 | 120.0 | 27.5 | 32.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 57 | | 1 | 125.0 | 28.1 | 32.4 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 58 | D | 1 | 125.0 | 28.1 | 32.4 | 152.4 | 272.4 |
| DRA4:[WEATHERSBY.DLE]8301 | 59 | | 3 | 125.0 | 28.0 | 32.4 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 60 | | 4 | 125.0 | 27.8 | 32.4 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 61 | | 2 | 125.0 | 27.6 | 32.4 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 62 | | 2 | 130.0 | 28.3 | 32.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 63 | | 2 | 130.0 | 27.9 | 32.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 64 | | 1 | 130.0 | 27.8 | 32.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 65 | D | 1 | 130.0 | 27.6 | 32.5 | 32.5 | 36.5 |
| DRA4:[WEATHERSBY.DLE]8301 | 66 | | 1 | 130.0 | 27.6 | 32.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 67 | | 2 | 43.0 | 59.3 | 61.0 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 68 | | 4 | 43.0 | 59.0 | 61.0 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 69 | | 4 | 43.0 | 58.9 | 61.0 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 70 | | 4 | 44.0 | 59.2 | 61.1 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 71 | | 2 | 44.0 | 59.1 | 61.1 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 72 | | 2 | 44.0 | 58.9 | 61.1 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 73 | | 2 | 44.0 | 58.6 | 61.1 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 74 | D | 1 | 46.0 | 59.3 | 61.1 | 121.1 | 166.1 |
| DRA4:[WEATHERSBY.DLE]8301 | 75 | | 1 | 46.0 | 59.3 | 61.1 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 76 | D | 1 | 46.0 | 59.2 | 61.1 | 181.1 | 781.1 |
| DRA4:[WEATHERSBY.DLE]8301 | 77 | | 3 | 46.0 | 59.2 | 61.1 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 78 | | 2 | 46.0 | 59.0 | 61.1 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 79 | | 2 | 46.0 | 58.9 | 61.1 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 80 | | 2 | 47.0 | 59.1 | 61.1 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 81 | | 4 | 47.0 | 59.0 | 61.1 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 82 | | 3 | 47.0 | 58.9 | 61.1 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 83 | | 2 | 47.0 | 58.8 | 61.1 | | |

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|---|---|---|---|---|---|---|---|---|
| DRA4:[WEATHERSBY.DLE]8301 | 84 | | 6 | 50.0 | 59.1 | 61.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 85 | | 2 | 50.0 | 58.9 | 61.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 86 | | 2 | 50.0 | 57.7 | 61.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 87 | | 3 | 53.0 | 59.1 | 61.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 88 | | 2 | 53.0 | 59.0 | 61.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 89 | | 4 | 53.0 | 58.9 | 61.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 90 | | 1 | 53.0 | 58.8 | 61.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 91 | | 2 | 56.0 | 59.0 | 61.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 92 | | 2 | 56.0 | 58.8 | 61.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 93 | | 2 | 56.0 | 58.5 | 61.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 94 | M | 1 | 56.0 | 58.4 | 61.3 | 181.3 | 421.3 |
| DRA4:[WEATHERSBY.DLE]8301 | 95 | | 1 | 56.0 | 58.4 | 61.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 96 | | 2 | 56.0 | 57.1 | 61.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 97 | | 1 | 59.0 | 59.0 | 61.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 98 | M | 1 | 59.0 | 59.0 | 61.3 | 121.3 | 181.3 |
| DRA4:[WEATHERSBY.DLE]8301 | 99 | | 2 | 59.0 | 59.0 | 61.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 100 | | 1 | 59.0 | 58.9 | 61.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 101 | | 1 | 59.0 | 58.8 | 61.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 102 | | 2 | 59.0 | 58.7 | 61.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 103 | | 2 | 72.0 | 58.9 | 61.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 104 | | 2 | 72.0 | 58.8 | 61.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 105 | M | 1 | 72.0 | 58.7 | 61.5 | 181.5 | 301.5 |
| DRA4:[WEATHERSBY.DLE]8301 | 106 | | 1 | 72.0 | 58.7 | 61.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 107 | | 2 | 72.0 | 58.6 | 61.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 108 | | 2 | 72.0 | 58.5 | 61.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 109 | | 2 | 72.0 | 58.3 | 61.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 110 | | 2 | 76.0 | 59.3 | 61.6 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 111 | | 2 | 76.0 | 58.8 | 61.6 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 112 | | 2 | 76.0 | 58.3 | 61.6 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 113 | | 2 | 76.0 | 57.7 | 61.6 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 114 | | 2 | 76.0 | 57.1 | 61.6 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 115 | | 2 | 80.0 | 58.8 | 61.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 116 | M | 1 | 80.0 | 58.7 | 61.7 | 181.7 | 421.7 |
| DRA4:[WEATHERSBY.DLE]8301 | 117 | | 1 | 80.0 | 58.7 | 61.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 118 | | 1 | 80.0 | 58.6 | 61.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 119 | M | 1 | 80.0 | 58.6 | 61.7 | 66.7 | 81.7 |
| DRA4:[WEATHERSBY.DLE]8301 | 120 | | 2 | 80.0 | 58.5 | 61.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 121 | | 2 | 80.0 | 58.0 | 61.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 122 | | 2 | 84.0 | 58.7 | 61.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 123 | | 4 | 84.0 | 58.3 | 61.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 124 | | 2 | 84.0 | 58.1 | 61.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 125 | | 2 | 84.0 | 57.1 | 61.7 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 126 | M | 1 | 88.0 | 59.3 | 61.8 | 66.8 | 81.8 |

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|---|---|---|---|---|---|---|---|
| DRA4:[WEATHERSBY.DLE]8301 | 127 | | 1 | 88.0 | 59.3 | 61.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 128 | | 2 | 88.0 | 58.8 | 61.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 129 | | 2 | 88.0 | 58.7 | 61.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 130 | | 2 | 88.0 | 58.6 | 61.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 131 | | 1 | 88.0 | 58.5 | 61.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 132 | D | 1 | 88.0 | 58.5 | 61.8 | 181.8 241.8 |
| DRA4:[WEATHERSBY.DLE]8301 | 133 | | 2 | 88.0 | 58.5 | 61.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 134 | | 3 | 88.0 | 58.4 | 61.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 135 | | 2 | 88.0 | 58.2 | 61.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 136 | | 2 | 88.0 | 57.5 | 61.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 137 | | 1 | 92.0 | 58.4 | 61.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 138 | | 2 | 92.0 | 58.2 | 61.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 139 | | 2 | 92.0 | 58.1 | 61.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 140 | | 2 | 92.0 | 57.9 | 61.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 141 | | 2 | 92.0 | 57.8 | 61.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 142 | | 1 | 96.0 | 58.6 | 61.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 143 | D | 1 | 96.0 | 58.3 | 61.9 | 66.9 81.9 |
| DRA4:[WEATHERSBY.DLE]8301 | 144 | | 2 | 96.0 | 58.3 | 61.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 145 | | 1 | 96.0 | 58.2 | 61.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 146 | | 2 | 96.0 | 57.8 | 61.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 147 | | 2 | 96.0 | 57.4 | 61.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 148 | | 1 | 96.0 | 57.0 | 61.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 149 | | 2 | 96.0 | 56.8 | 61.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 150 | | 2 | 25.0 | 239.9 | 240.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 151 | | 4 | 25.0 | 239.8 | 240.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 152 | | 2 | 25.0 | 239.7 | 240.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 153 | | 2 | 25.0 | 239.0 | 240.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 154 | | 2 | 27.0 | 239.9 | 240.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 155 | | 4 | 27.0 | 239.8 | 240.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 156 | | 2 | 27.0 | 239.7 | 240.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 157 | | 2 | 27.0 | 239.5 | 240.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 158 | | 2 | 29.0 | 239.8 | 240.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 159 | | 2 | 29.0 | 239.6 | 240.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 160 | | 2 | 29.0 | 239.5 | 240.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 161 | | 1 | 29.0 | 239.1 | 240.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 162 | D | 1 | 29.0 | 239.1 | 240.8 | 360.8 660.8 |
| DRA4:[WEATHERSBY.DLE]8301 | 163 | | 2 | 29.0 | 239.1 | 240.8 | |
| DRA4:[WEATHERSBY.DLE]8301 | 164 | | 2 | 31.0 | 239.7 | 240.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 165 | | 2 | 31.0 | 239.5 | 240.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 166 | | 2 | 31.0 | 239.3 | 240.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 167 | | 2 | 31.0 | 239.0 | 240.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 168 | | 2 | 31.0 | 237.9 | 240.9 | |
| DRA4:[WEATHERSBY.DLE]8301 | 169 | | 5 | 33.0 | 239.7 | 240.9 | |

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|---|---|---|---|---|---|---|---|---|
| DRA4:[WEATHERSBY.DLE]8301 | 170 | | 1 | 33.0 | 239.6 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 171 | | 1 | 33.0 | 239.4 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 172 | | 1 | 33.0 | 239.3 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 173 | D | 1 | 33.0 | 239.3 | 240.9 | 360.9 | 600.9 |
| DRA4:[WEATHERSBY.DLE]8301 | 174 | | 2 | 33.0 | 239.0 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 175 | | 4 | 34.0 | 239.7 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 176 | M | 1 | 34.0 | 239.6 | 240.9 | 300.9 | 360.9 |
| DRA4:[WEATHERSBY.DLE]8301 | 177 | | 1 | 34.0 | 239.6 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 178 | | 2 | 34.0 | 239.5 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 179 | | 1 | 34.0 | 238.7 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 180 | M | 1 | 34.0 | 238.7 | 240.9 | 300.9 | 360.9 |
| DRA4:[WEATHERSBY.DLE]8301 | 181 | M | 1 | 35.0 | 239.5 | 240.9 | 245.9 | 300.9 |
| DRA4:[WEATHERSBY.DLE]8301 | 182 | | 1 | 35.0 | 239.5 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 183 | | 4 | 35.0 | 239.2 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 184 | D | 1 | 35.0 | 238.6 | 240.9 | 245.9 | 300.9 |
| DRA4:[WEATHERSBY.DLE]8301 | 185 | | 2 | 36.0 | 239.6 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 186 | M | 1 | 36.0 | 239.5 | 240.9 | 300.9 | 390.9 |
| DRA4:[WEATHERSBY.DLE]8301 | 187 | | 1 | 36.0 | 239.5 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 188 | | 3 | 36.0 | 239.4 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 189 | | 2 | 36.0 | 239.1 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 190 | | 2 | 36.0 | 238.3 | 240.9 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 191 | | 2 | 38.0 | 239.0 | 241.0 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 192 | | 2 | 50.0 | 239.2 | 241.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 193 | D | 1 | 50.0 | 239.1 | 241.2 | 361.2 | 601.2 |
| DRA4:[WEATHERSBY.DLE]8301 | 194 | | 5 | 50.0 | 239.1 | 241.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 195 | | 4 | 50.0 | 238.9 | 241.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 196 | | 2 | 50.0 | 238.7 | 241.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 197 | | 4 | 50.0 | 238.6 | 241.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 198 | | 2 | 50.0 | 238.1 | 241.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 199 | | 2 | 54.0 | 239.2 | 241.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 200 | | 2 | 54.0 | 239.1 | 241.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 201 | | 2 | 54.0 | 239.0 | 241.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 202 | | 2 | 54.0 | 238.9 | 241.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 203 | | 2 | 54.0 | 238.8 | 241.2 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 204 | | 2 | 58.0 | 239.1 | 241.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 205 | | 2 | 58.0 | 239.0 | 241.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 206 | | 4 | 58.0 | 238.8 | 241.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 207 | | 1 | 58.0 | 238.6 | 241.3 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 208 | M | 1 | 58.0 | 238.6 | 241.3 | 301.3 | 361.3 |
| DRA4:[WEATHERSBY.DLE]8301 | 209 | | 2 | 62.0 | 238.9 | 241.4 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 210 | | 4 | 62.0 | 238.8 | 241.4 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 211 | | 2 | 62.0 | 238.5 | 241.4 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 212 | | 2 | 62.0 | 238.2 | 241.4 | | |

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|---|---|---|---|---|---|---|---|---|
| DRA4:[WEATHERSBY.DLE]8301 | 213 | | 4 | 66.0 | 238.9 | 241.4 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 214 | | 2 | 66.0 | 238.8 | 241.4 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 215 | | 2 | 66.0 | 238.0 | 241.4 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 216 | | 2 | 66.0 | 237.9 | 241.4 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 217 | | 2 | 70.0 | 238.8 | 241.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 218 | | 2 | 70.0 | 238.7 | 241.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 219 | | 2 | 70.0 | 238.4 | 241.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 220 | | 2 | 70.0 | 238.1 | 241.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 221 | M | 1 | 70.0 | 237.1 | 241.5 | 301.5 | 361.5 |
| DRA4:[WEATHERSBY.DLE]8301 | 222 | | 1 | 70.0 | 237.1 | 241.5 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 223 | M | 1 | 74.0 | 238.8 | 241.6 | 361.6 | 451.6 |
| DRA4:[WEATHERSBY.DLE]8301 | 224 | | 1 | 74.0 | 238.8 | 241.6 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 225 | | 1 | 74.0 | 238.6 | 241.6 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 226 | M | 1 | 74.0 | 238.3 | 241.6 | 361.6 | 601.6 |
| DRA4:[WEATHERSBY.DLE]8301 | 227 | | 3 | 74.0 | 238.3 | 241.6 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 228 | | 2 | 74.0 | 238.2 | 241.6 | | |
| DRA4:[WEATHERSBY.DLE]8301 | 229 | | 2 | 74.0 | 237.1 | 241.6 | | |

EDU885M

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|---|---|---|---|---|---|---|---|---|
| AN1043.O REPETS= 1 | 1 | | 9 | 100.0 | 57.2 | 114.2 | | |
| AN1044.O REPETS= 1 | 2 | | 10 | 100.0 | 58.1 | 111.0 | | |
| AN1046.O REPETS= 1 | 3 | | 9 | 150.0 | 25.1 | 70.7 | | |
| AN1047.O REPETS= 1 | 4 | | 10 | 150.0 | 26.1 | 68.1 | | |
| AN2001.O REPETS= 1 | 5 | | 8 | 100.0 | 57.9 | 113.5 | | |
| AN2003.O REPETS= 1 | 6 | D | 1 | 150.0 | 56.7 | 286.5 | 407.0 | 467.0 |
| AN2003.O REPETS= 1 | 7 | D | 1 | 150.0 | 56.7 | 286.5 | 317.0 | 437.0 |
| AN2003.O REPETS= 1 | 8 | | 7 | 150.0 | 56.7 | 286.5 | | |
| AN2006.O REPETS= 2 | 9 | | 8 | 150.0 | 35.3 | 134.4 | | |
| AN2007.O REPETS= 1 | 10 | D | 1 | 150.0 | 36.3 | 130.8 | 251.0 | 971.0 |
| AN2007.O REPETS= 1 | 11 | D | 1 | 150.0 | 36.3 | 130.8 | 251.0 | 1211.0 |
| AN2007.O REPETS= 1 | 12 | | 7 | 150.0 | 36.3 | 130.8 | | |
| AN2008.O REPETS= 1 | 13 | | 9 | 150.0 | 36.0 | 128.3 | | |

EDU885S

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|---|---|---|---|---|---|---|
| *** [.EDURAW]AN2013.OUT;1 | 1 | 9 | 100.0 | 87.9 | 218.2 | |
| *** [.EDURAW]AN2014.OUT;1 | 2 | 10 | 100.0 | 87.7 | 217.8 | |
| *** [.EDURAW]AN2015.OUT;1 | 3 | 9 | 150.0 | 36.3 | 107.8 | |
| *** [.EDURAW]AN2016.OUT;1 | 4 | 10 | 150.0 | 33.8 | 112.1 | |

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|---|---|---|---|---|---|---|---|---|
| *** [.EDURAW]AN3010.OUT;1 | 5 | | 9 | 100.0 | 20.1 | 328.8 | | |
| *** [.EDURAW]AN3010.OUT;1 | 6 | D | 1 | 100.0 | 20.1 | 328.8 | 449.0 | 569.0 |
| *** [.EDURAW]AN3012.OUT;1 | 7 | | 8 | 80.0 | 107.8 | 369.7 | | |
| *** [.EDURAW]AN3012.OUT;1 | 8 | D | 1 | 80.0 | 107.8 | 369.7 | 490.0 | 1210.0 |
| *** [.EDURAW]AN3012.OUT;1 | 9 | D | 1 | 80.0 | 107.8 | 369.7 | 490.0 | 4690.0 |
| *** [.EDURAW]AN3014.OUT;1 | 10 | | 7 | 100.0 | 20.0 | 344.4 | | |
| *** [.EDURAW]AN3014.OUT;1 | 11 | D | 1 | 100.0 | 20.0 | 344.4 | 374.4 | 464.4 |
| *** [.EDURAW]AN3016.OUT;1 | 12 | | 10 | 80.0 | 58.8 | 357.3 | | |
| *** [.EDURAW]AN3017.OUT;1 | 13 | | 9 | 60.0 | 120.0 | 157.4 | | |
| *** [.EDURAW]AN3018.OUT;1 | 14 | | 9 | 60.0 | 120.0 | 158.1 | | |

EDU1180S

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DIV361 REPETS= 1 | 1 D | 1 | 150.0 | 61.1 | 222.0 | 252.0 | 312.0 |
| DIV361 REPETS= 1 | 2 D | 1 | 150.0 | 61.1 | 222.0 | 252.0 | 327.0 |
| DIV361 REPETS= 1 | 3 | 8 | 150.0 | 61.1 | 222.0 | | |
| DIV461 REPETS= 1 | 4 D | 1 | 149.0 | 57.7 | 261.0 | 381.0 | 681.0 |
| DIV461 REPETS= 1 | 5 | 9 | 149.0 | 57.7 | 261.0 | | |
| DIV561 REPETS= 1 | 6 | 10 | 150.0 | 60.5 | 219.0 | | |
| DIV562 REPETS= 1 | 7 D | 1 | 150.0 | 60.4 | 220.0 | 230.0 | 265.0 |
| DIV562 REPETS= 1 | 8 D | 1 | 150.0 | 60.4 | 220.0 | 340.0 | 700.0 |
| DIV562 REPETS= 1 | 9 D | 1 | 150.0 | 60.4 | 220.0 | 91.4 | 240.0 |
| DIV562 REPETS= 1 | 10 | 7 | 150.0 | 60.4 | 220.0 | | |
| DIV571 REPETS= 1 | 11 D | 1 | 150.0 | 45.4 | 173.0 | 203.0 | 233.0 |
| DIV571 REPETS= 1 | 12 D | 1 | 150.0 | 45.4 | 173.0 | 293.0 | 593.0 |
| DIV571 REPETS= 1 | 13 D | 1 | 150.0 | 45.4 | 173.0 | 203.0 | 263.0 |
| DIV571 REPETS= 1 | 14 | 7 | 150.0 | 45.4 | 173.0 | | |
| DIV581 REPETS= 1 | 15 D | 1 | 100.0 | 59.6 | 127.0 | 157.0 | 217.0 |
| DIV581 REPETS= 1 | 16 | 9 | 100.0 | 59.6 | 127.0 | | |
| DIV591 REPETS= 1 | 17 | 10 | 150.0 | 30.6 | 122.0 | | |
| DIV592 REPETS= 1 | 18 | 10 | 150.0 | 30.3 | 115.0 | | |
| DIV5A1 REPETS= 1 | 19 | 10 | 100.0 | 45.6 | 106.0 | | |
| DIV5A2 REPETS= 1 | 20 | 10 | 100.0 | 46.1 | 119.0 | | |
| DIV5C1 REPETS= 1 | 21 | 10 | 75.0 | 120.9 | 185.0 | | |
| DIV5C2 REPETS= 1 | 22 | 10 | 75.0 | 117.8 | 186.0 | | |

EDU1180R

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DIV331 REPETS= 2 | 1 | 10 | 150.0 | 59.3 | 343.0 | | |
| DIV341 REPETS= 4 | 2 D | 1 | 125.0 | 75.5 | 362.0 | 482.0 | 722.0 |
| DIV341 REPETS= 4 | 3 | 9 | 125.0 | 75.5 | 362.0 | | |
| DIV531 REPETS= 2 | 4 | 9 | 150.0 | 61.3 | 349.0 | | |
| DIV532 REPETS= 2 | 5 | 10 | 150.0 | 65.6 | 381.0 | | |
| DIV533 REPETS= 2 | 6 | 9 | 150.0 | 60.7 | 370.0 | | |
| DIV541 REPETS= 3 | 7 | 10 | 125.0 | 90.5 | 358.0 | | |
| DIV542 REPETS= 3 | 8 | 10 | 125.0 | 87.4 | 342.0 | | |
| DIV543 REPETS= 3 | 9 | 10 | 125.0 | 88.2 | 340.0 | | |
| DIV544 REPETS= 3 | 10 | 10 | 125.0 | 88.8 | 336.0 | | |
| DIV551 REPETS= 5 | 11 | 10 | 75.0 | 148.1 | 317.0 | | |
| DIV552 REPETS= 5 | 12 | 10 | 74.0 | 147.6 | 304.0 | | |
| DIV553 REPETS= 5 | 13 | 10 | 75.0 | 146.8 | 307.0 | | |
| DIV5B1 REPETS= 2 | 14 D | 1 | 150.0 | 61.3 | 317.0 | 347.0 | 437.0 |
| DIV5B1 REPETS= 2 | 15 | 9 | 150.0 | 61.3 | 317.0 | | |

EDU184

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| MDC018.OUT REPETS= 3 | 1 | D | 1 | 60.0 | 158.5 | 353.5 | 348.9 | 363.5 |
| MDC018.OUT REPETS= 3 | 2 | | 9 | 60.0 | 158.5 | 353.5 | | |
| MDC019.OUT REPETS= 3 | 3 | | 9 | 60.0 | 148.2 | 335.1 | | |
| MDC020.OUT REPETS= 4 | 4 | | 10 | 100.0 | 63.6 | 348.9 | | |
| MDC021.OUT REPETS= 3 | 5 | D | 1 | 100.0 | 49.0 | 248.0 | 243.0 | 258.0 |
| MDC021.OUT REPETS= 5 | 6 | | 9 | 100.0 | 65.7 | 385.5 | | |
| MDC022.OUT REPETS= 3 | 7 | | 10 | 60.0 | 151.4 | 334.7 | | |
| MDC023.OUT REPETS= 1 | 8 | | 1 | 80.0 | 33.8 | 42.5 | | |
| MDC023.OUT REPETS= 4 | 9 | | 9 | 80.0 | 105.6 | 364.1 | | |
| MDC024.OUT REPETS= 1 | 10 | | 1 | 80.0 | 30.9 | 50.6 | | |
| MDC024.OUT REPETS= 4 | 11 | D | 1 | 80.0 | 101.9 | 364.7 | 360.9 | 365.7 |
| MDC024.OUT REPETS= 4 | 12 | D | 1 | 80.0 | 101.9 | 364.7 | 277.2 | 374.7 |
| MDC024.OUT REPETS= 4 | 13 | | 7 | 80.0 | 101.9 | 364.7 | | |
| MDC025.OUT REPETS= 2 | 14 | | 10 | 40.0 | 204.2 | 318.6 | | |
| MDC026.OUT REPETS= 2 | 15 | | 10 | 40.0 | 209.1 | 321.9 | | |
| MDC027.OUT REPETS= 3 | 16 | D | 1 | 150.0 | 49.0 | 385.2 | 384.2 | 390.2 |
| MDC027.OUT REPETS= 2 | 17 | D | 1 | 150.0 | 49.0 | 300.0 | 299.1 | 315.0 |
| MDC027.OUT REPETS= 3 | 18 | | 8 | 150.0 | 49.0 | 385.2 | | |
| MDC028.OUT REPETS= 2 | 19 | | 1 | 150.0 | 23.8 | 119.8 | | |
| MDC028.OUT REPETS= 3 | 20 | | 1 | 150.0 | 47.7 | 312.1 | | |
| MDC028.OUT REPETS= 1 | 21 | D | 1 | 150.0 | 23.8 | 92.9 | 71.6 | 92.9 |
| MDC028.OUT REPETS= 3 | 22 | D | 1 | 150.0 | 47.7 | 312.1 | 322.1 | 352.1 |
| MDC028.OUT REPETS= 4 | 23 | D | 1 | 150.0 | 47.7 | 397.0 | 312.1 | 407.0 |
| MDC028.OUT REPETS= 4 | 24 | | 5 | 150.0 | 47.7 | 397.0 | | |
| MDC029.OUT REPETS= 3 | 25 | | 1 | 80.0 | 61.4 | 245.4 | | |
| MDC029.OUT REPETS= 4 | 26 | | 9 | 80.0 | 68.0 | 319.5 | | |
| MDC030.OUT REPETS= 4 | 27 | | 10 | 80.0 | 79.9 | 329.8 | | |
| MDC031.OUT REPETS= 3 | 28 | | 1 | 100.0 | 45.3 | 241.5 | | |
| MDC031.OUT REPETS= 4 | 29 | | 9 | 100.0 | 55.1 | 343.2 | | |
| MDC032.OUT REPETS= 1 | 30 | | 10 | 40.0 | 363.1 | 368.5 | | |
| MDC033.OUT REPETS= 4 | 31 | | 10 | 100.0 | 59.7 | 336.8 | | |
| MDC034.OUT REPETS= 1 | 32 | | 1 | 60.0 | 82.8 | 88.4 | | |
| MDC034.OUT REPETS= 3 | 33 | D | 1 | 60.0 | 145.7 | 323.3 | 333.3 | 348.3 |
| MDC034.OUT REPETS= 3 | 34 | | 8 | 60.0 | 145.7 | 323.3 | | |
| MDC035.OUT REPETS= 2 | 35 | D | 1 | 150.0 | 61.0 | 351.3 | 331.7 | 355.4 |
| MDC035.OUT REPETS= 3 | 36 | | 9 | 150.0 | 61.0 | 436.1 | | |
| MDC036.OUT REPETS= 2 | 37 | | 10 | 100.0 | 111.1 | 382.4 | | |
| MDC037.OUT REPETS= 4 | 38 | | 10 | 120.0 | 36.3 | 298.4 | | |
| HE1040.OUT REPETS= 1 | 39 | | 10 | 120.0 | 17.2 | 27.9 | | |
| HE1041.OUT REPETS= 1 | 40 | | 10 | 120.0 | 16.6 | 27.8 | | |

| | | | | | |
|---|---|---|---|---|---|
| HE1042.OUT REPETS= 1 | 41 | 10 | 120.0 | 16.8 | 23.6 |
| MDC999.NOT REPETS= 2 | 42 | 10 | 80.0 | 14.0 | 263.2 |

DC8AOW

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DR0018A REPETS= 1 | 1 | | 2 | 119.0 | 47.7 | 108.4 | | |
| DR0170A REPETS= 1 | 2 | | 1 | 89.0 | 20.1 | 49.0 | | |
| DR0171A REPETS= 1 | 3 | | 1 | 118.0 | 47.9 | 91.9 | | |
| DR0172A REPETS= 1 | 4 | | 1 | 89.0 | 58.2 | 86.9 | | |
| DR0184A REPETS= 1 | 5 | D | 1 | 148.0 | 37.5 | 92.7 | 123.0 | 235.0 |
| DR0186A REPETS= 1 | 6 | | 1 | 98.0 | 58.1 | 95.3 | | |
| DR0187A REPETS= 1 | 7 | | 1 | 118.0 | 47.9 | 91.5 | | |
| DR0189A REPETS= 1 | 8 | | 1 | 148.0 | 37.8 | 92.7 | | |
| DR0190A REPETS= 1 | 9 | | 1 | 177.0 | 26.0 | 84.7 | | |
| DR0192A REPETS= 1 | 10 | | 1 | 177.0 | 26.8 | 84.1 | | |
| DR0193A REPETS= 1 | 11 | | 1 | 89.0 | 58.4 | 86.6 | | |
| DR0219A REPETS= 1 | 12 | | 1 | 89.0 | 58.1 | 88.4 | | |
| DR0220A REPETS= 1 | 13 | | 2 | 118.0 | 45.3 | 93.0 | | |
| DR0221A REPETS= 1 | 14 | | 1 | 148.0 | 37.4 | 94.0 | | |
| DR0222A REPETS= 1 | 15 | | 2 | 177.0 | 26.9 | 85.6 | | |
| DR0223A REPETS= 1 | 16 | | 2 | 89.0 | 58.5 | 89.1 | | |
| DR0224A REPETS= 1 | 17 | | 2 | 118.0 | 47.6 | 92.7 | | |
| DR0226A REPETS= 1 | 18 | | 1 | 177.0 | 27.0 | 85.6 | | |
| DR0237A REPETS= 1 | 19 | | 2 | 118.0 | 47.8 | 92.0 | | |
| DR0238A REPETS= 1 | 20 | | 2 | 89.0 | 58.3 | 88.3 | | |
| DR0239A REPETS= 1 | 21 | | 2 | 177.0 | 23.3 | 80.3 | | |
| DR0240A REPETS= 1 | 22 | | 2 | 148.0 | 37.3 | 93.3 | | |
| DR0241A REPETS= 1 | 23 | | 2 | 118.0 | 47.9 | 93.2 | | |
| DR0242A REPETS= 1 | 24 | | 2 | 89.0 | 58.4 | 88.3 | | |
| DR0243A REPETS= 1 | 25 | | 2 | 177.0 | 27.0 | 86.2 | | |
| DR0244A REPETS= 1 | 26 | | 2 | 148.0 | 36.0 | 92.0 | | |
| DR0346A REPETS= 1 | 27 | M | 1 | 148.0 | 37.4 | 92.3 | 122.0 | 152.0 |
| DR0346A REPETS= 1 | 28 | D | 1 | 148.0 | 37.4 | 92.3 | 90.2 | 102.3 |
| DR0304A REPETS= 1 | 29 | | 2 | 148.0 | 27.5 | 70.0 | | |
| DR0306A REPETS= 1 | 30 | | 2 | 148.0 | 27.3 | 68.1 | | |
| DR0322R | 31 | D | 1 | 147.6 | 27.3 | 67.7 | 65.5 | 82.7 |

DC8AOD

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DR0395A REPETS= 1 | 1 | | 5 | 200.0 | 12.6 | 103.2 | | |
| DR0396A REPETS= 1 | 2 | | 3 | 184.0 | 25.4 | 97.0 | | |
| DR0434A REPETS= 1 | 3 | | 3 | 180.0 | 25.0 | 91.2 | | |
| DR0435A REPETS= 1 | 4 | | 4 | 180.0 | 34.7 | 121.5 | | |
| DR0436A REPETS= 1 | 5 | | 5 | 180.0 | 24.1 | 91.8 | | |
| DR0440A REPETS= 1 | 6 | | 7 | 180.0 | 28.8 | 105.9 | | |
| DR0441A REPETS= 1 | 7 | | 5 | 180.0 | 28.0 | 105.9 | | |
| DR0445A REPETS= 1 | 8 | | 4 | 180.0 | 27.5 | 113.9 | | |
| DR0447A REPETS= 1 | 9 | | 6 | 180.0 | 34.7 | 121.0 | | |
| DR0448A REPETS= 1 | 10 | M | 1 | 180.0 | 33.3 | 45.5 | 38.0 | 48.0 |
| DR0448A REPETS= 1 | 11 | | 5 | 180.0 | 33.3 | 120.9 | | |
| DR0450A REPETS= 1 | 12 | | 6 | 180.0 | 34.5 | 121.1 | | |
| DR0451A REPETS= 1 | 13 | | 6 | 180.0 | 28.4 | 115.0 | | |
| DR0455A REPETS= 1 | 14 | | 10 | 180.0 | 27.3 | 114.1 | | |
| DR0458A REPETS= 1 | 15 | | 10 | 180.0 | 25.8 | 112.1 | | |
| DR0523A REPETS= 1 | 16 | | 5 | 177.0 | 10.5 | 36.1 | | |
| DR0526A REPETS= 1 | 17 | | 4 | 240.0 | 7.7 | 137.1 | | |
| DR0532A REPETS= 1 | 18 | | 3 | 297.0 | 13.4 | 147.8 | | |
| DR0532A REPETS= 1 | 19 | M | 1 | 297.0 | 13.4 | 147.8 | | |
| DR0534A REPETS= 1 | 20 | | 4 | 240.0 | 14.0 | 152.5 | | |
| DR0535A REPETS= 1 | 21 | | 4 | 300.0 | 13.3 | 146.9 | | |
| DR0540A REPETS= 1 | 22 | | 5 | 180.0 | 11.5 | 52.2 | | |
| DR0545A REPETS= 1 | 23 | | 4 | 300.0 | 12.8 | 148.2 | | |
| DR0546A REPETS= 1 | 24 | | 4 | 240.0 | 11.6 | 154.0 | | |
| DR0547A REPETS= 1 | 25 | | 3 | 240.0 | 7.4 | 132.6 | | |
| DR0549A REPETS= 1 | 26 | | 4 | 300.0 | 13.4 | 147.9 | | |
| DR0554A REPETS= 1 | 27 | | 4 | 300.0 | 10.0 | 145.3 | | |
| DR0555A REPETS= 1 | 28 | | 4 | 240.0 | 9.3 | 132.5 | | |
| DR0556A REPETS= 1 | 29 | | 4 | 300.0 | 10.2 | 145.3 | | |
| DR0558A REPETS= 1 | 30 | | 2 | 240.0 | 7.9 | 130.8 | | |
| DR0018A REPETS= 1 | 31 | | 4 | 119.0 | 47.7 | 108.4 | | |
| DR0170A REPETS= 1 | 32 | | 1 | 89.0 | 20.1 | 49.0 | | |
| DR0171A REPETS= 1 | 33 | | 1 | 118.0 | 47.9 | 91.9 | | |
| DR0172A REPETS= 1 | 34 | | 1 | 89.0 | 58.2 | 86.9 | | |
| DR0184A REPETS= 1 | 35 | | 1 | 148.0 | 37.5 | 92.7 | | |
| DR0186A REPETS= 1 | 36 | | 1 | 98.0 | 58.1 | 95.3 | | |
| DR0187A REPETS= 1 | 37 | D | 1 | 118.0 | 47.9 | 91.5 | 211.0 | 271.0 |
| DR0189A REPETS= 1 | 38 | | 1 | 148.0 | 37.8 | 92.7 | | |
| DR0190A REPETS= 1 | 39 | | 2 | 177.0 | 26.0 | 84.7 | | |
| DR0192A REPETS= 1 | 40 | | 1 | 177.0 | 26.8 | 84.1 | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DR0193A REPETS= 1 | 41 | | 1 | 89.0 | 58.4 | 86.6 | | |
| DR0219A REPETS= 1 | 42 | | 3 | 89.0 | 58.1 | 88.4 | | |
| DR0220A REPETS= 1 | 43 | | 3 | 118.0 | 45.3 | 93.0 | | |
| DR0221A REPETS= 1 | 44 | | 2 | 148.0 | 37.4 | 94.0 | | |
| DR0222A REPETS= 1 | 45 | | 2 | 177.0 | 26.9 | 85.6 | | |
| DR0223A REPETS= 1 | 46 | | 2 | 89.0 | 58.5 | 89.1 | | |
| DR0224A REPETS= 1 | 47 | | 2 | 118.0 | 47.8 | 92.7 | | |
| DR0225A REPETS= 1 | 48 | | 3 | 148.0 | 39.1 | 94.9 | | |
| DR0226A REPETS= 1 | 49 | | 3 | 177.0 | 27.0 | 85.6 | | |
| DR0237A REPETS= 1 | 50 | | 4 | 118.0 | 47.8 | 92.0 | | |
| DR0238A REPETS= 1 | 51 | | 3 | 89.0 | 58.3 | 88.3 | | |
| DR0239A REPETS= 1 | 52 | | 4 | 177.0 | 23.3 | 80.3 | | |
| DR0240A REPETS= 1 | 53 | | 4 | 148.0 | 37.3 | 93.3 | | |
| DR0241A REPETS= 1 | 54 | | 3 | 118.0 | 47.9 | 93.2 | | |
| DR0242A REPETS= 1 | 55 | | 3 | 89.0 | 58.4 | 88.3 | | |
| DR0243A REPETS= 1 | 56 | | 4 | 177.0 | 27.0 | 86.2 | | |
| DR0244A REPETS= 1 | 57 | D | 1 | 148.0 | 36.0 | 92.0 | 213.0 | 512.0 |
| DR0244A REPETS= 1 | 58 | | 3 | 148.0 | 36.0 | 92.0 | | |
| DR0304A REPETS= 1 | 59 | | 2 | 148.0 | 27.5 | 70.0 | | |
| DR0306A REPETS= 1 | 60 | | 1 | 148.0 | 27.3 | 68.1 | | |
| DR0345A REPETS= 1 | 61 | | 7 | 118.0 | 47.3 | 93.7 | | |
| DR0346A REPETS= 1 | 62 | D | 1 | 148.0 | 37.4 | 92.3 | 122.0 | 182.0 |
| DR0346A REPETS= 1 | 63 | | 9 | 148.0 | 37.4 | 92.3 | | |
| DR0363A REPETS= 1 | 64 | | 10 | 59.0 | 78.9 | 88.2 | | |
| DR0369A REPETS= 1 | 65 | | 10 | 79.0 | 32.4 | 42.6 | | |
| DR0370A REPETS= 1 | 66 | | 11 | 98.0 | 19.1 | 30.2 | | |
| DR0541A REPETS= 1 | 67 | | 6 | 180.0 | 13.9 | 54.5 | | |

ASATEDU

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| NEDU TEST79-8 REPETS= 1 | 1 | 6 | 60.0 | 2756.0 | 4020.0 | | |
| NEDU TEST79-8 REPETS= 1 | 2 D | 1 | 60.0 | 2756.0 | 4020.0 | 3225.0 | 3945.0 |
| NEDU TEST79-8 REPETS= 1 | 3 D | 1 | 60.0 | 2756.0 | 4020.0 | 3270.0 | 3990.0 |
| NEDU TEST79-8 REPETS= 1 | 4 D | 1 | 60.0 | 2756.0 | 4020.0 | 3120.0 | 3840.0 |
| NEDU TEST79-8 REPETS= 1 | 5 D | 1 | 60.0 | 2756.0 | 4020.0 | 4140.0 | 6900.0 |
| NEDU TEST79-30 REPETS= 1 | 6 | 7 | 60.0 | 4891.0 | 6516.0 | | |
| NEDU TEST79-30 REPETS= 1 | 7 D | 1 | 60.0 | 4891.0 | 6516.0 | 5946.0 | 6666.0 |
| NEDU TEST79-30 REPETS= 1 | 8 D | 1 | 60.0 | 4891.0 | 6516.0 | 6006.0 | 6726.0 |
| NEDU TEST79-30 REPETS= 1 | 9 D | 1 | 60.0 | 4891.0 | 6516.0 | 5916.0 | 6636.0 |
| NEDU TEST79-38 REPETS= 1 | 10 | 6 | 60.0 | 5643.0 | 7300.0 | | |
| NEDU TEST79-38 REPETS= 1 | 11 D | 1 | 60.0 | 5643.0 | 7300.0 | 6730.0 | 7450.0 |
| NEDU TEST79-38 REPETS= 1 | 12 M | 3 | 60.0 | 5643.0 | 7300.0 | | |
| NEDU TEST81-8 RECOMP 12- | 13 | 9 | 60.0 | 5814.5 | 7881.0 | | |
| NEDU TEST81-8 RECOMP 12-2 | 14 D | 1 | 60.0 | 5814.5 | 7881.0 | 5820.0 | 6560.0 |
| NEDU TEST81-13, REPETS= | 15 | 6 | 60.0 | 5888.0 | 7518.0 | | |
| NEDU TEST81-13, REPETS= | 16 M | 4 | 60.0 | 5888.0 | 7518.0 | | |
| NEDU TEST81-13, REPETS= | 17 D | 1 | 60.0 | 5888.0 | 7518.0 | 6797.0 | 7517.0 |
| NEDU TEST82-41 REPETS= 1 | 18 M | 10 | 60.0 | 5566.0 | 7332.0 | | |
| NEDU TEST83-42 EXCURS= 1 | 19 D | 1 | 60.0 | 5524.0 | 7343.0 | 7463.0 | 7823.0 |
| NEDU TEST83-42 EXCURS= 1 | 20 M | 7 | 60.0 | 5524.0 | 7343.0 | | |
| NEDU TEST83-42 REPET = 1 | 21 M | 2 | 60.0 | 5578.0 | 7343.0 | | |
| NEDU TEST83-46 EXCURS= 1 | 22 | 9 | 60.0 | 5515.0 | 7752.0 | | |
| NEDU TEST83-46 REPETS= 1 | 23 | 1 | 60.0 | 5584.0 | 7752.0 | | |
| NEDU TEST84-42 REPETS= 1 | 24 | 8 | 60.0 | 5637.0 | 7484.0 | | |
| NEDU TEST84-42 REPETS= 1 | 25 M | 1 | 60.0 | 5637.0 | 7484.0 | 5643.0 | 6095.0 |
| NEDU TEST84-42 REPETS= 1 | 26 | 1 | 60.0 | 5274.0 | 7484.0 | | |
| NEDU TEST86-06 EXCURS= 9 | 27 | 4 | 60.0 | 4066.0 | 6536.0 | | |
| NEDU TEST86-06 EXCURS= 9 | 28 D | 1 | 60.0 | 4066.0 | 6536.0 | 6656.0 | 7231.0 |
| NEDU TESTAPR-87 REPETS= | 29 | 9 | 60.0 | 7014.0 | 8860.0 | | |
| NEDU TEST88-01 EXCURS= 1 | 30 | 7 | 50.0 | 4021.0 | 7093.0 | | |
| NEDU TEST88-03 EXCURS= 1 | 31 | 7 | 50.0 | 3588.0 | 7204.0 | | |
| NEDU TEST88-03 EXCURS= 1 | 32 D | 1 | 50.0 | 3588.0 | 7204.0 | 4320.0 | 7494.0 |

ASATNSM

| | | | |
|---|---|---|---|
| MINISAT-1 | 1 | 2 | 25.5 2878.0 2881.3 |
| MINISAT-1 (fatigue) | 2 M | 13 | 25.5 2878.0 2881.3 |
| MINISAT-1 (niggles) | 3 M | 1 | 25.5 2878.0 2881.3 3001.0 3601.0 |
| MINISAT-1 (niggles) | 4 M | 1 | 25.5 2878.0 2881.3 2891.0 2911.0 |
| MINISAT-1 (niggles) | 5 M | 2 | 25.5 2878.0 2881.3 3001.0 3180.0 |
| MINISAT-2 | 6 | 8 | 29.5 2878.0 2881.4 |
| MINISAT-2 | 7 D | 1 | 29.5 2878.0 2881.4 2911.0 2946.0 |
| MINISAT-2 | 8 D | 1 | 29.5 2878.0 2881.4 2911.0 2961.0 |
| MINISAT-2 | 9 D | 1 | 29.5 2878.0 2881.4 2911.0 2971.0 |
| MINISAT-2 | 10 D | 1 | 29.5 2878.0 2881.4 2911.0 3031.0 |
| MINISAT-2 (niggles) | 11 M | 1 | 29.5 2878.0 2881.4 2911.0 3031.0 |
| MINISAT-2 (niggles) | 12 M | 1 | 29.5 2878.0 2881.4 3001.0 3241.0 |
| MINISAT-2 (fatigue) | 13 M | 1 | 29.5 2878.0 2881.4 |
| AIRSAT-1+LAST EXCURS | 14 | 10 | 60.0 9828.0 11520.0 |
| AIRSAT-1+LAST EXCURS | 15 D | 1 | 60.0 9828.0 11520.0 10579.0 11299.0 |
| AIRSAT-2+LAST EXCURS | 16 | 11 | 60.0 11475.5 12960.0 |
| AIRSAT-2+LAST EXCURS | 17 M | 1 | 60.0 11475.5 12960.0 12420.0 13140.0 |
| AIRSAT-3A+LAST EXCURS | 18 | 3 | 132.0 6874.6 10299.0 |
| AIRSAT-3B+LAST EXCURS | 19 D | 1 | 132.0 6887.2 10297.7 9455.0 10175.0 |
| AIRSAT-3B+LAST EXCURS | 20 | 2 | 132.0 6887.2 10297.7 |
| AIRSAT-3C+last 198 excurs | 21 | 3 | 132.0 6885.0 10298.2 |
| AIRSAT-3D+last 198 excurs | 22 D | 1 | 132.0 6617.6 10038.0 9213.0 9933.0 |
| AIRSAT-3D+last 198 excurs | 23 D | 1 | 132.0 6617.6 10038.0 9758.0 10478.0 |
| AIRSAT-3D+last 198 excurs | 24 | 1 | 132.0 6617.6 10038.0 |
| AIRSAT4 A-D | 25 | 11 | 132.0 3580.0 7508.0 |
| AIRSAT4-D | 26 D | 1 | 132.0 3580.0 7508.0 6609.0 7329.0 |
| AIRSAT4-E | 27 | 3 | 132.0 3586.0 7508.0 |
| AIRSAT4-F | 28 | 3 | 132.0 3614.5 7508.0 |
| AIRSAT-5A, 5B | 29 | 6 | 111.0 2870.0 6890.0 |
| AIRSAT-5C, 5F | 30 | 6 | 111.0 2867.5 6590.0 |
| AIRSAT-5F | 31 D | 1 | 111.0 2867.5 6590.0 2880.0 3175.0 |
| AIRSAT-5D | 32 | 2 | 111.0 2867.5 8700.0 |
| AIRSAT-5D | 33 D | 1 | 111.0 2867.5 8700.0 4631.0 5351.0 |
| AIRSAT-5E(TRUNC) | 34 D | 3 | 111.0 2867.5 2882.9 2880.0 3210.0 |
| AIRSAT-5G | 35 | 1 | 111.0 2865.5 8510.0 |
| AIRSAT-5G(TRUNC) | 36 D | 2 | 111.0 2865.5 2882.0 2880.0 3009.0 |
| AIRSAT-5G(TRUNC SH) | 37 D | 1 | 111.0 2865.5 6528.0 5808.0 6528.0 |
| AIRSAT-5H | 38 | 2 | 111.0 2868.2 6740.6 |
| AIRSAT-5I | 39 | 2 | 111.0 2870.9 8306.8 |
| AIRSAT-5I | 40 D | 1 | 111.0 2870.9 8306.8 5252.0 5972.0 |

| | | | | | |
|---|---|---|---|---|---|
| AIRSAT-5J | 41 | 4 | 111.0 | 2870.8 | 6743.0 |
| AIRSAT6A | 42 | 3 | 111.0 | 3589.6 | 8087.0 |
| AIRSAT6B | 43 | 3 | 111.0 | 3592.7 | 8088.0 |
| AIRSAT6C | 44 | 4 | 111.0 | 3594.0 | 8087.9 |
| AIRSAT6D | 45 | 3 | 111.0 | 3592.1 | 8087.8 |

ASATNMR

| | | | | | |
|---|---|---|---|---|---|
| **DIVE #1, KE | 1 | 1 | 20.0 | 5765.0 | 5781.0 |
| **DIVE #1, NA | 2 | 1 | 20.0 | 5765.0 | 5781.0 |
| **DIVE #1, BE | 3 | 1 | 20.0 | 5682.0 | 5781.0 |
| **DIVE #1, OL | 4 | 1 | 20.0 | 5765.0 | 5781.0 |
| DIVE #2, BA | 5 | 1 | 20.0 | 6164.0 | 6178.0 |
| DIVE #2, SI | 6 | 1 | 20.0 | 6164.0 | 6178.0 |
| DIVE #2, ST | 7 | 1 | 20.0 | 6164.0 | 6178.0 |
| DIVE #2, MA | 8 | 1 | 20.0 | 6164.0 | 6178.0 |
| DIVE #3, BA | 9 | 1 | 20.0 | 5805.0 | 5823.4 |
| DIVE #3, SI | 10 | 1 | 20.0 | 5805.0 | 5823.4 |
| DIVE #3, ST | 11 | 1 | 20.0 | 5805.0 | 5823.4 |
| DIVE #3, MA | 12 | 1 | 20.0 | 5805.0 | 5823.4 |
| DIVE #4, KE | 13 | 1 | 20.0 | 6176.0 | 6191.2 |
| DIVE #4, NA | 14 | 1 | 20.0 | 6176.0 | 6191.2 |
| DIVE #4, BE | 15 | 1 | 20.0 | 6176.0 | 6191.2 |
| DIVE #4, OL | 16 | 1 | 20.0 | 6176.0 | 6191.2 |
| DIVE #5, SW | 17 | 1 | 20.0 | 5788.0 | 5808.0 |
| DIVE #5, GR | 18 | 1 | 20.0 | 5788.0 | 5808.0 |
| DIVE #5, HO | 19 | 1 | 20.0 | 5788.0 | 5808.0 |
| DIVE #5, FA | 20 | 1 | 20.0 | 5788.0 | 5808.0 |
| DIVE #6, ST | 21 | 1 | 20.0 | 6178.0 | 6190.0 |
| DIVE #6, CH | 22 | 1 | 20.0 | 6178.0 | 6190.0 |
| DIVE #6, JU | 23 | 1 | 20.0 | 6178.0 | 6190.0 |
| DIVE #6, WI | 24 | 1 | 20.0 | 6178.0 | 6190.0 |
| **DIVE #7, SW | 25 | 1 | 20.0 | 4277.0 | 6192.2 |
| **DIVE #7, GR | 26 | 1 | 20.0 | 4277.0 | 6192.2 |
| **DIVE #7, HO | 27 | 1 | 20.0 | 6175.0 | 6192.2 |
| **DIVE #7, FA | 28 | 1 | 20.0 | 6175.0 | 6192.2 |
| DIVE *8, ST | 29 | 1 | 20.0 | 5122.0 | 5833.9 |
| DIVE *8, CH | 30 | 1 | 20.0 | 5218.0 | 5833.9 |
| DIVE *8, JU | 31 | 1 | 20.0 | 5077.0 | 5809.9 |
| DIVE *8, WI | 32 | 1 | 20.0 | 5247.0 | 5809.9 |
| NMRI JUL88 | 33 | 17 | 24.0 | 4319.6 | 4320.4 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| NMRI JUL88 | 34 | D | 1 | 24.0 | 4319.6 | 4320.4 | 4440.0 | 4485.0 |

## ASATARE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rescue | 1 | 3 | 65.3 | 2866.0 | 4505.0 | | |
| Rescue | 2 | 3 | 71.8 | 2860.0 | 4505.0 | | |
| Rescue | 3 | 1 | 78.3 | 2845.0 | 4500.0 | | |
| Rescue | 4 D | 1 | 78.3 | 2845.0 | 4500.0 | 2880.0 | 3067.0 |
| Rescue | 5 D | 1 | 78.3 | 2845.0 | 4500.0 | 2880.0 | 3455.0 |
| Rescue | 6 | 2 | 75.1 | 2830.0 | 4505.0 | | |
| Rescue | 7 D | 1 | 75.1 | 2830.0 | 4505.0 | 2880.0 | 4575.0 |
| Rescue | 8 | 3 | 75.1 | 2862.0 | 4505.0 | | |
| Rescue | 9 | 2 | 75.1 | 2862.0 | 4335.0 | | |
| Rescue | 10 D | 1 | 75.1 | 2862.0 | 4335.0 | 2880.0 | 3382.0 |
| Rescue | 11 | 2 | 75.1 | 2801.0 | 4505.0 | | |
| Rescue | 12 M | 1 | 75.1 | 2801.0 | 4505.0 | 2880.0 | 4655.0 |
| Islander Idive 1 | 13 | 5 | 23.5 | 2873.0 | 4321.0 | | |
| Islander Idive 2 | 14 | 5 | 22.8 | 2877.0 | 2882.0 | | |
| Islander Idive 3 | 15 | 2 | 26.1 | 2879.5 | 2881.4 | | |
| Islander Idive 3 | 16 D | 1 | 26.1 | 2879.5 | 2881.4 | 2880.0 | 3270.0 |
| Islander Idive 3 | 17 M | 2 | 26.1 | 2879.5 | 2881.4 | 2880.0 | 3960.0 |
| Islander Idive 4 | 18 | 4 | 26.1 | 2879.0 | 2882.0 | | |
| Islander Idive 4 | 19 D | 1 | 26.1 | 2879.0 | 2882.0 | 2880.0 | 3065.0 |
| Islander Idive 5 | 20 | 5 | 22.8 | 2879.5 | 2882.0 | | |
| Islander Idive 6 | 21 | 5 | 22.8 | 2877.0 | 2886.0 | | |
| Islander Idive 7 (.02b CO | 22 | 4 | 22.8 | 2842.0 | 2882.0 | | |
| Islander Idive 7 (.02b CO | 23 M | 1 | 22.8 | 2842.0 | 2882.0 | 2880.0 | 3398.0 |
| Islander Idive 8 (.02b CO | 24 | 5 | 22.8 | 2878.0 | 2883.0 | | |
| Islander Idive 9 (.02b CO | 25 | 5 | 26.1 | 6.0 | 2887.0 | | |
| Islander Idive 10 (.02b C | 26 | 3 | 26.1 | 2791.0 | 2883.0 | | |
| Islander Idive 10 (.02b C | 27 D | 1 | 26.1 | 2791.0 | 2883.0 | 2880.0 | 3260.0 |
| Islander Idive 10 (.02b C | 28 M | 1 | 26.1 | 2791.0 | 2883.0 | 2880.0 | 3260.0 |
| Islander Idive 11 (.02b C | 29 | 4 | 26.1 | 2799.0 | 2882.0 | | |
| Islander Idive 11 (.02b C | 30 D | 1 | 26.1 | 2799.0 | 2882.0 | 2880.0 | 3105.0 |
| Islander Idive 12 (.02b C | 31 | 5 | 22.8 | 2780.0 | 2884.0 | | |
| Islander Idive 13 (.02b C | 32 | 5 | 22.8 | 2798.0 | 2882.0 | | |
| Islander IIdive 1 | 33 | 4 | 71.8 | 2887.3 | 5672.0 | | |
| Islander IIdive 1 | 34 D | 1 | 71.8 | 2887.3 | 5672.0 | 4336.0 | 5529.0 |
| Islander IIdive 2 | 35 | 4 | 71.8 | 2889.0 | 5539.0 | | |
| Islander IIdive 2 | 36 D | 1 | 71.8 | 2889.0 | 5539.0 | 2894.0 | 3016.0 |
| Islander IIdive 3 | 37 M | 4 | 71.8 | 2880.0 | 5533.0 | 2888.0 | 3853.0 |
| Islander IIdive 3 | 38 D | 1 | 71.8 | 2880.0 | 5533.0 | 2888.0 | 5821.0 |
| Islander IIdive 4 | 39 | 3 | 71.8 | 2888.0 | 5896.0 | | |
| Islander IIdive 4 | 40 M | 1 | 71.8 | 2888.0 | 5896.0 | 2891.0 | 3913.0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Islander IIdive 4 | 41 M | 1 | 71.8 | 2888.0 | 5896.0 | 4696.0 | 5881.0 |
| Islander IIdive 5 (.02b C | 42 | 4 | 71.8 | 2885.5 | 5537.0 | | |
| Islander IIdive 5 (.02b C | 43 D | 1 | 71.8 | 2885.5 | 5537.0 | 2892.0 | 3002.0 |
| Islander IIdive 6 (.02b C | 44 | 5 | 71.8 | 2881.0 | 5534.0 | | |
| Islander IIdive 7 (.02b C | 45 | 3 | 71.8 | 2886.0 | 5537.0 | | |
| Islander IIdive 7 (.02b C | 46 D | 1 | 71.8 | 2886.0 | 5537.0 | 4337.0 | 5359.0 |
| Islander IIdive 7 (.02b C | 47 D | 1 | 71.8 | 2886.0 | 5537.0 | 4337.0 | 5825.0 |
| Islander IIdive 8 (.02b C | 48 | 3 | 68.5 | 2888.0 | 5536.0 | | |
| Islander IIdive 8 (.02b C | 49 D | 1 | 68.5 | 2888.0 | 5536.0 | 2891.0 | 3106.0 |
| Islander IIdive 8 (.02b C | 50 M | 1 | 68.5 | 2888.0 | 5536.0 | 2891.0 | 2951.0 |
| Islander IIdive 9 (.02b C | 51 | 2 | 65.3 | 2891.0 | 5540.0 | | |
| Islander IIdive 9 (.02b C | 52 D | 1 | 65.3 | 2891.0 | 5540.0 | 2895.0 | 2923.0 |
| Islander IIdive 9 (.02b C | 53 D | 1 | 65.3 | 2891.0 | 5540.0 | 2895.0 | 4275.0 |
| Islander IIdive 10 (.02b | 54 | 5 | 65.3 | 2889.8 | 5537.0 | | |
| Islander IIdive 11 (.02b | 55 | 5 | 65.3 | 2887.0 | 5535.0 | | |
| Islander IIdive 12 (.02b | 56 | 3 | 65.3 | 2888.0 | 5535.0 | | |
| Islander IIdive 12 (.02b | 57 D | 1 | 65.3 | 2888.0 | 5535.0 | 2890.0 | 3269.0 |
| Islander IIdive 12 (.02b | 58 M | 1 | 65.3 | 2888.0 | 5535.0 | 4335.0 | 6131.0 |
| Islander IIdive 13 (.02b | 59 | 4 | 62.0 | 2887.0 | 5536.0 | | |
| Islander IIdive 13 (.02b | 60 | 1 | 62.0 | 2887.0 | 5536.0 | 4336.0 | 8086.0 |
| Islander IIdive 14 (.02b | 61 | 5 | 62.0 | 2867.5 | 5518.0 | | |
| Islander IIdive 15 (.02b | 62 | 5 | 62.0 | 2887.0 | 5535.0 | | |
| Islander IIdive 16 (.02b | 63 | 4 | 62.0 | 2889.0 | 5536.0 | | |
| Islander IIdive 16 (.02b | 64 D | 1 | 62.0 | 2889.0 | 5536.0 | 4336.0 | 5296.0 |

DC8ASUR

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DR0162A | 1 | 3 | 59.1 | 27.0 | 62.3 | | |
| DR0163A | 2 | 4 | 60.0 | 28.8 | 69.5 | | |
| DR0164A | 3 | 3 | 59.1 | 28.7 | 69.8 | | |
| DR0165A | 4 | 4 | 59.1 | 28.9 | 65.8 | | |
| DR0166A | 5 | 3 | 88.6 | 58.3 | 100.0 | | |
| DR0167A | 6 | 3 | 118.1 | 29.9 | 85.3 | | |
| DR0168A | 7 | 3 | 88.6 | 58.3 | 96.9 | | |
| DR0173A | 8 | 3 | 118.1 | 47.7 | 102.9 | | |
| DR0174A | 9 D | 1 | 147.6 | 37.2 | 102.1 | 132.0 | 230.0 |
| DR0174A | 10 | 2 | 147.6 | 37.2 | 102.1 | | |
| DR0175A | 11 | 3 | 177.2 | 26.6 | 95.5 | | |
| DR0177A | 12 | 3 | 98.4 | 58.4 | 106.1 | | |
| DR0178A | 13 | 3 | 177.2 | 26.9 | 95.5 | | |
| DR0179A | 14 | 3 | 88.6 | 56.4 | 96.7 | | |
| DR0180A | 15 | 3 | 118.1 | 47.8 | 101.3 | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DR0181A | 16 | | 3 | 98.4 | 58.2 | 99.3 | | |
| DR0183A | 17 | | 3 | 147.6 | 37.3 | 102.5 | | |
| DR0191A | 18 | | 3 | 118.1 | 47.9 | 102.2 | | |
| DR0194A | 19 | | 3 | 88.6 | 58.4 | 96.8 | | |
| DR0227A | 20 | | 6 | 88.6 | 58.5 | 101.5 | | |
| DR0228A | 21 | | 5 | 118.1 | 46.8 | 104.8 | | |
| DR0229A | 22 | | 4 | 177.2 | 27.1 | 101.2 | | |
| DR0230A | 23 | | 5 | 147.6 | 37.4 | 103.7 | | |
| DR0231A | 24 | | 5 | 118.1 | 47.9 | 105.1 | | |
| DR0232A | 25 | | 6 | 88.6 | 58.9 | 99.1 | | |
| DR0234A | 26 | D | 1 | 147.6 | 37.5 | 103.2 | 53.6 | 59.6 |
| DR0234A | 27 | | 5 | 147.6 | 37.5 | 103.2 | | |
| DR0245A | 28 | | 5 | 118.1 | 41.8 | 100.4 | | |
| DR0246A | 29 | | 7 | 88.6 | 58.4 | 213.0 | | |
| DR0247A | 30 | | 5 | 177.2 | 27.0 | 99.5 | | |
| DR0248A | 31 | | 6 | 147.6 | 37.5 | 107.0 | | |
| DR0249A | 32 | | 6 | 118.1 | 47.5 | 105.3 | | |
| DR0250A | 33 | | 7 | 88.6 | 55.9 | 99.5 | | |
| DR0251A | 34 | D | 1 | 177.2 | 26.9 | 99.1 | 219.0 | 1200.0 |
| DR0251A | 35 | | 3 | 177.2 | 26.9 | 99.1 | | |
| DR0252A | 36 | D | 1 | 147.6 | 37.5 | 107.0 | 227.0 | 1247.0 |
| DR0252A | 37 | | 4 | 147.6 | 37.5 | 107.0 | | |
| DR0288A | 38 | | 6 | 177.2 | 42.1 | 168.7 | | |
| DR0289A | 39 | | 5 | 118.1 | 57.5 | 135.0 | | |
| DR0290A | 40 | | 7 | 147.6 | 64.2 | 209.0 | | |
| DR0291A | 41 | | 5 | 118.1 | 56.6 | 133.5 | | |
| DR0292A | 42 | D | 1 | 177.2 | 41.0 | 166.5 | 164.0 | 186.5 |
| DR0292A | 43 | | 4 | 177.2 | 41.0 | 166.5 | | |
| DR0293A | 44 | | 6 | 206.7 | 26.5 | 127.9 | | |
| DR0294A | 45 | | 6 | 147.6 | 64.4 | 209.3 | | |
| DR0295A | 46 | | 6 | 206.7 | 24.6 | 123.2 | | |
| DR0296A | 47 | D | 1 | 236.2 | 32.9 | 215.9 | 91.6 | 97.6 |
| DR0296A | 48 | | 7 | 236.2 | 32.9 | 215.9 | | |
| DR0297A | 49 | D | 1 | 236.2 | 29.6 | 202.0 | 199.5 | 207.0 |
| DR0297A | 50 | D | 1 | 236.2 | 29.6 | 202.0 | 322.0 | 1042.0 |
| DR0297A | 51 | | 7 | 236.2 | 29.6 | 202.0 | | |
| DR0319A | 52 | | 5 | 118.1 | 47.9 | 117.4 | | |
| DR0320A | 53 | | 4 | 177.2 | 27.0 | 111.0 | | |
| DR0323A | 54 | | 5 | 206.7 | 20.9 | 122.1 | | |
| DR0324A | 55 | | 5 | 206.7 | 21.9 | 120.5 | | |
| DR0324B | 56 | | 1 | 206.7 | 21.9 | 154.4 | | |
| DR0325A | 57 | | 5 | 236.2 | 34.7 | 240.5 | | |
| DR0326A | 58 | | 5 | 236.2 | 33.5 | 238.7 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DR0339A | 59 D | 1 | 118.1 | 47.4 | 117.0 | 127.0 | 147.0 |
| DR0339A | 60 D | 1 | 118.1 | 47.4 | 117.0 | 237.0 | 1557.9 |
| DR0339A | 61 M | 1 | 118.1 | 47.4 | 117.0 | 237.0 | 1557.9 |
| DR0339A | 62 | 10 | 118.1 | 47.4 | 117.0 | | |
| DR0344A | 63 | 11 | 118.1 | 47.8 | 117.5 | | |
| DR0348A | 64 | 9 | 177.2 | 26.6 | 110.6 | | |
| DR0349A | 65 | 12 | 206.7 | 23.5 | 118.6 | | |
| DR0350A | 66 | 11 | 236.2 | 35.7 | 244.8 | | |
| DR0351A | 67 | 15 | 177.2 | 25.6 | 109.4 | | |
| DR0353A | 68 | 14 | 88.6 | 57.8 | 102.2 | | |
| DR0354A | 69 | 12 | 147.6 | 36.2 | 118.5 | | |
| DR0359A | 70 | 13 | 177.2 | 25.2 | 127.1 | | |
| DR0360A | 71 | 7 | 88.6 | 58.5 | 102.4 | | |
| DR0365A | 72 | 10 | 147.6 | 67.0 | 228.2 | | |

DCSUREP

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DR0283R | 1 | 8 | 147.6 | 44.4 | 267.1 | | |
| DR0287R | 2 | 10 | 147.6 | 45.0 | 267.5 | | |
| DR0322R | 3 | 3 | 147.6 | 44.8 | 242.0 | | |
| DR0328R | 4 | 5 | 147.6 | 44.8 | 243.2 | | |
| DR0330R | 5 | 6 | 147.6 | 43.0 | 243.2 | | |
| DR0332R | 6 | 5 | 147.6 | 45.2 | 286.3 | | |
| DR0334R | 7 | 6 | 147.6 | 44.9 | 290.7 | | |
| DR0358R | 8 | 13 | 177.2 | 25.4 | 321.9 | | |
| DR0362R | 9 D | 1 | 177.2 | 24.6 | 320.3 | 49.0 | 54.6 |
| DR0362R | 10 | 12 | 177.2 | 24.6 | 320.3 | | |

SUREX

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SUREX1, | 1 D | 1 | 65.0 | 2611.2 | 8886.0 | 4320.0 | 4336.0 |
| SUREX1, | 2 D | 1 | 65.0 | 2620.3 | 8886.0 | 4320.0 | 4336.0 |
| SUREX1, | 3 | 1 | 65.0 | 2611.2 | 8886.0 | | |
| SUREX2, | 4 | 3 | 65.0 | 2611.0 | 8886.0 | | |
| SUREX3, | 5 D | 1 | 65.0 | 2611.7 | 8886.0 | 2880.0 | 2894.0 |
| SUREX3, | 6 | 2 | 65.0 | 2611.7 | 8886.0 | | |
| SUREX4, | 7 D | 1 | 65.0 | 2669.0 | 8886.0 | 8040.0 | 8760.0 |
| SUREX4, | 8 | 2 | 65.0 | 2669.0 | 8886.0 | | |
| SUREX5, | 9 | 3 | 65.0 | 2608.8 | 8886.0 | | |
| SUREX6, | 10 M | 1 | 65.0 | 2608.6 | 8886.0 | 4320.0 | 4336.0 |
| SUREX6, | 11 M | 1 | 65.0 | 2608.6 | 8886.0 | 5760.0 | 5769.0 |

```
SUREX6,    12      1    65.0  2608.6  8886.0
SUREX7,    13      3    75.0  2550.8  7520.7
SUREX8,    14 D    1    75.0  2551.6  7508.0  4320.0  4452.0
SUREX8,    15 M    1    75.0  2551.6  7508.0  4320.0  4323.5
SUREX8,    16      1    75.0  2551.6  7508.0
```